



PRODUCT: ACETONE (AC) REVISION: 9

DATED: 26/01/17

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PRODUCT SPECIFICATION

Product Name	Acetone N Grade
Alternative Name	
Product Grade	2-propanone
Specification Reference	AC/6 (02/10)

SALES SPECIFICATION

PROPERTY	UNITS	VALUE	TEST
Acetone content	% mass	99.5 min	
Density	kg/l @ 20°C	0.790 min - 0.792 max	D3505
Water Content	% mass	0.3 max	D1364
Acidity	% mass as acetic acid (fixed)	0.002 max	BS 509
Appearance		Clear colourless liquid	Visual
Non-Volatile Matter	%	0.001 max	D1353
Colour	Pt/Co Scale	5 max	D1209
Distillation range (Incl. Bp 56.2°C)	°C	1 max	D1078
Alcoholic impurities		Complies with BS limit test	BS 509 (part 2):1984
Alkalinity (calculated as Ammonia)		Complies with BS limit test	D1614
Permanganate time	hours	2 minimum	D1363

PHYSICAL PROPERTIES

PROPERTY	CONDITIONS	UNIT	VALUE
Molecular mass			58.06
Density	20°C	kg/litre (vacuo)	0.790
Relative Density	20°C/20°C		0.7911
Coefficient of Cubical expansion	per °C		1.487 x 10 ⁻³
Change in Relative Density	per °C		1.14 x 10 ⁻³
Melting point		°C	-94.7
Boiling point	1.013 bar	°C	58.2
Change in boiling point	1013 bar	°C/mbar	0.0293
Vapour pressure	20°C	mbar	247
Flammable limits			
Upper	20°C	% volume	13.0
Lower	20°C	% volume	2.6
Flash point	Abel closed cup	°C	-18
Auto ignition temperature		°C	465
Specific heat (liquid)	20°C	kJ/kg°C	2.18
Specific heat (vapour)	20°C	kJ/kg°C	1.28
Latent heat			
(of fusion)		kJ/kg	97.97
(of vaporisation)	at boiling point	kJ/kg	501.15
Heat of combustion	20°C	Mj/kg	30.86
Critical temperature		°C	235.0
Critical pressure		bar	47
Volume Resistivity	25°C	ohm.m	4.2 x 10 ⁷
Thermal Conductivity	20°C	mW/m °C	150
Dielectric constant	20°C		21
Refractive index	20°C	n ²⁰ _D	1.3591
Absolute viscosity	20°C	cP	0.322
Evaporation rate	21.5°C		18.11
Relative to n-BuAc = 1			



NOTES

Tennants ACETONE complies with the following standards:

European Pharmacopoeia

British Standard BS 509:1987

American Standard ASTM D329-86

German Standard DIN 53247

Exclusion of Liability

Information contained in this publication is accurate to the best of the knowledge and belief of Tennants.

Any information or advice obtained from Tennants otherwise than by means of this publication and whether relating to Tennants materials or other materials, is also given in good faith. However, it remains at all times the responsibility of the customer to ensure that Tennants materials are suitable for the particular purpose intended.

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Health and Safety

A Material Safety Data Sheet has been issued describing the health, safety and environmental properties of this product, identifying the potential hazards and giving advice on the handling precautions and emergency procedures. This must be consulted fully before handling, storage and use.



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SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY

1.1 Product Identifier

Trade Names Acetone
CAS Number 67-64-1
EINECS Number 200-662-2
REACH Registration Number 01-2119471330-49-XXXX

1.2 Relevant identified uses of the substance or mixture and uses advised against

Besides its application as a solvent Acetone is an important intermediate of the chemical industry e.g. for manufacturing Methylmethacrylate, Methyl Isobutyl Ketone and Bisphenol A

Identified Uses:

Industrial use:

- 0 Generic exposure scenario (GES): Industrial Processes relevant for Acetone containing products (ES 1 - 11)
- 1 Manufacture, processing and distribution of substances and mixtures *
- 2 Use in laboratories
- 3 Uses in coatings
- 4 Use in binders and release agents
- 5 Rubber production and processing
- 6 Polymer manufacturing
- 7 Polymer processing
- 8 Use in cleaning agents
- 9 Use in oil and gas field drilling and production operations
- 10 Blowing agents
- 11 Mining chemicals

Professional use:

- 12 Generic exposure scenario (GES): Professional Processes relevant for Acetone containing products (ES 13 - 22)
- 13 Use in laboratories
- 14 Uses in coatings
- 15 Use in binders and release agents
- 16 Polymer production
- 17 Polymer processing
- 18 Use in cleaning agents
- 19 Oil field well drilling and production operations
- 20 Agrochemical uses
- 21 De-icing and anti-icing applications
- 22 Explosives manufacture & use

Consumer use:

- 23 Generic exposure scenario (GES): Consumer uses of Acetone (ES 24 - 26)
- 24 Uses in coatings
- 25 Use in cleaning agents
- 26 De-icing and anti-icing applications

* Examples for processing: use as an intermediate, use as a monomer etc., use as a solvent, use for the manufacturing of resins

1.3 Details of the supplier of the safety data sheet

Tennants Distribution Limited
Hazelbottom Road
Cheetham
Manchester
M8 0GR
Tel: 44(0)161 205 4454
Fax: 44(0) 161 203 4298
Email: msds@tennantsdistribution.com

1.4 Emergency telephone number

Tel: 44(0)844 335 0001 (24 hours)



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2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation 1272/2008 (GHS)

Flam. Liq. 2; H225

Highly flammable liquid and vapour

Eye Irrit. 2; H319

Causes serious eye irritation

STOT SE 3; H336

May cause drowsiness or dizziness

(EUH066)

Repeated exposure may cause skin dryness or cracking

2.2 Label elements

Labelling (CLP)



Signal Word

Danger

Hazard Statements:

H225 Highly flammable liquid and vapour

H319 Causes serious eye irritation

H336 May cause drowsiness and dizziness

EUH066 Repeated exposure may cause skin dryness and cracking

Precautionary Statements

P210 Keep away from heat/sparks/open flames/hot surfaces – no smoking

P243 Take precautionary measures against static discharge

P305+P351+338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing

P403+P235 Store in a well ventilated place. Keep cool

P405 Store locked up

P501 Dispose of contents/container to hazardous or special waste collection point

2.3 Other hazards

Vapours are moderately irritating to the mucous membranes

Higher doses may have a narcotic effect. Danger of metabolic acidosis

After ingestion: Gastric and intestinal problems

Other symptoms: Headache, dizziness, nausea, unconsciousness

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Chemical characterisation

$C_3H_6O = H_3C-CO-CH_3$

Acetone, Dimethyl ketone, 2-Propanone, Methyl ketone

CAS Number	EINECS Number	REACH registration number	RTECS No.	Customs Tariff No.
67-64-1	200-662-2	01-2119471330-49-XXXX	AL3150000	2914 11 00

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Advice

Move victim to fresh air, put at rest and loosen restrictive clothing. Do not allow victim to become chilled. Keep victim warm

If victim is at risk of losing consciousness, position and transport on their side. Call a physician immediately

Inhalation

Move victim to fresh air, put at rest and loosen restrictive clothing.

If breathing becomes irregular or ceases, apply mouth to mouth resuscitation or artificial respiration immediately, where required supply oxygen. Immediately get medical attention

Skin contact

Immediately remove any wetted clothing, shoes or stockings. After contact with skin, wash immediately with soap and plenty of water. Then cream your skin. In case of skin irritation, consult a physician

Eye contact

Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently seek the immediate attention of an ophthalmologist

Ingestion

If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

Give activated carbon, in order to reduce the resorption in the gastro-enteric tract



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4.2 Most import symptoms and effects, both acute and delayed

Burning eyes and skin. Fatigue, nausea, Headache, dizziness, unconsciousness.

In case of inhalation: For the development of any overt signs of toxicity in humans, accidental exposures to extremely large amounts of acetone by inhalation of vapour or ingestion of liquid are necessary (e. g. several thousand ppm of acetone vapour).

In case of ingestion: Gastric and intestinal problems.

After contact with skin: Irritant. Repeated exposure may cause skin dryness or cracking, due to defatting properties. No indication for sensitising properties in humans.

After eye contact: Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Combat acidosis. Monitor alkali reserves. Monitor breathing

If breathing becomes irregular or ceases, apply mouth to mouth resuscitation or artificial respiration immediately, where required supply oxygen

Attention: several hours latency period. In severe cases, pneumonia or a pulmonary oedema may develop

5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Suitable extinguishing media: Extinguishing powder, alcohol resistant foam, carbon dioxide, water fog

Unsuitable extinguishing media: Full water jet

5.2 Special hazards arising from the substance or mixture

Highly flammable liquid and vapour. Explosive mixtures with air may even form at room temperature. Beware of reignition. In case of fire may be liberated: Carbon monoxide and carbon dioxide.

5.3 Advice for fire-fighters

Special protective equipment for fire-fighters: Wear a self contained breathing apparatus and chemical protective clothing

Additional information

Hazchem-Code: 2YE

Do not expose to high temperature. Danger of bursting or explosion. Use fine water spray to cool endangered containers

Move undamaged containers from immediate hazard area if it can be done safely. Do not allow fire water to penetrate into surface or ground water. Fire residuals and contaminated extinguishing water must be disposed of in accordance with the regulations of the local authorities. Fire class: B

Mixtures with 4% acetone mixed with 96% water still have a flash point of 54°C

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Eliminate all ignition sources if safe to do so. Remove persons not involved upwind. Wear a self-contained breathing apparatus and chemical protective clothing. Solvent-resistant protective clothing recommended.

6.2 Environmental precautions

Plug leaks if safely possible. Do not allow to enter drains, surface waters, basements or pits. When released into the environment, alert police and fire brigade. Seal all low level rooms. Danger of explosion!

6.3 Methods and material for containment and cleaning up

In case of spill of large quantities: Dam spills and pump to remove. Explosion protection required

Absorb leftover product with non-flammable liquid-binding material (e.g. earth, sand, vermiculite or ground sand stone) and place in closed containers for disposal

Flowing water: Dilution occurs quickly. In case of large spills/leaks inform appropriate local, state and federal spill reporting authorities

Standing water: Seal off. Remove all sources of ignition

Additional information: Remove all sources of ignition. Vapours spread at floor level. Cover drainage holes and evacuate basement. Dilute with plenty of water. Use only explosion protected equipment/instruments

Liquid: Very highly flammable. Liquid evaporate very quickly

Vapours: Very highly flammable

Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may backflash over great distances when ignited. Ignition by hot surfaces, sparks and open flames

Solubility in water: Complete

Mixtures with 4% acetone mixed with 96% water still have a flash point of 54°C. In case of important spills, risk of ignition of the acetone-water mixture. Potentially explosive mixtures with air may form above water surface

6.4 Reference to other sections

Refer additionally to Section 8 and 13



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7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Provide adequate ventilation, and local exhaust as needed.
Provide room air exhaust at ground level. Concentrated vapours are heavier than air. Avoid the formation of aerosol.
Do not breathe vapours. Avoid contact with skin and eyes. Wear protective equipment.
Use only explosion-protected equipment/instruments. Do not use air pressure.

Precautions against fire and explosion

Exposure to temperatures exceeding 50°C will increase pressure: resulting in danger of bursting or explosion. Keep away from sources of ignition – No smoking. Take precautionary measures against static discharges. Beware of reignition. Potentially explosive mixture may form within partially empty containers. Emergency cooling must be provided for in case of a fire in the vicinity. Do not weld

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers

Keep container dry. Keep container tightly closed in a cool, well-ventilated place. Protect from direct sunlight.
Steel, stainless steel, and aluminium are stable container materials. Copper may be attacked.
Unsuitable container/equipment material: May attack plastics.
Make sure spills can be contained, e.g. in sump pallets or kerbed areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.

Hints on joint storage

Do not store together with combustible or self-igniting materials or any highly flammable solids. Peroxides may form when product is exposed to light and air

Further details

Potentially explosive mixture may form within partially empty containers. For outdoor storage: Use only equipment approved for use in 1 zone. For indoor storage: Use only equipment approved for use in 2 zone
Storage class: 3 = Flammable liquids

7.3 Specific end use(s)

Solvent

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Type	Limit Value
Europe, IOELV: TWA	1210 mg/m ³ ; 500 ppm
Great Britain: WEL-TWA	1210 mg/m ³ ; 500 ppm
Great Britain: WEL-STEL	3620 mg/m ³ ; 1500 ppm
Ireland: 8 hours	1210 mg/m ³ ; 500 ppm IOELV

Contains no substances with occupational exposure limits

DN(M)EL/PNEC

DN(M)EL's

End User	Exposure Time	Route of entry	Value
Workers	Long term	Dermal	186 mg/kg bw/d
Workers	Short term	Inhalative	2420 mg/m ³
Workers	Long term	Inhalative	1210 mg/m ³
Consumers	Long term	Oral	62 mg/kg bw/d
Consumers	Long term	Dermal	62 mg/kg bw/d
Consumers	Long term	Inhalative	200 mg/m ³

Predicted No Effect Concentrations (PNEC):

PNEC water (freshwater) = 10.6 mg/l
PNEC water (marine water) = 1.06 mg/l
PNEC water (intermittent release) = 21 mg/l
PNEC sediment(freshwater) = 30.4 mg/kg dwt
PNEC sediment (marine water) = 3.04 mg/kg dwt
PNEC soil = 33.3 mg/kg dwt
PNEC sewage treatment plant = 100 mg/l

8.2 Exposure controls

Explosion protection required. Provide good ventilation and/or an exhaust system in the work area

Occupational exposure controls

All information for relevant exposure scenarios including operation conditions and risk management measures are listed in 'Annex II: Worker Exposure and Risk Assessment'

Respiratory protection

Use filter type AX (= against vapours of low boiling organic substances) according to EN 14387. Have a breathing



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apparatus that is not dependent on the circulating air ready for emergencies.

Hand protection

Protective gloves according to EN 374

Gloves material

Butyl caoutchouc (butyl rubber) – Layer thickness ≥ 0.5 mm. Breakthrough time: >480 min

Observe glove manufacturer's instructions concerning penetrability and breakthrough time

Eye protection

Tightly sealed safety glasses according to EN 166

Skin protection

Use solvent resistant protective clothing

Recommendation: Flame retardant protective clothing, anti-static safety shoes according to EN 345-347

General protection and hygiene measures

Keep away from heat sources, sparks and open flames. Take precautionary measures against static discharges.

Avoid contact with skin and eyes. When using do not eat, drink or smoke. Wash hands before breaks and after work.

Have eye wash bottle or eye rinse ready at work place.

Alternatives to the personal protective measures as mentioned can only be determined in agreement with a responsible safety expert.

Consumer exposure controls

All information for relevant exposure scenarios including operational conditions and risk management measures are listed in 'Annex II: consumer exposure and risk assessment'.

Environmental exposure controls

All information for relevant exposure scenarios including operational conditions and risk management measures are listed in 'Annex III: Environmental Exposure and Risk Assessment and Annex IV: Environmental Exposure Calculation Tool'.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless, clear
Odour	Sweet aromatic
pH in water solution	at 10 g/l: neutral' 50% in H ₂ O: 5 - 6
Boiling point/boiling range	56.05°C
Melting point/melting range	-94.7°C
Flash point	-17°C (c.c.)
Evaporation rate	No data available
Flammability	Highly flammable liquid and vapour
Lower explosion limit	2.50 vol %
Upper explosion limit	14.30 vol %
Vapour pressure	At 20°C: 240 hPa At 50°C: 800 hPa
Density	at 20°C: 0.79 g/ml
Solubility	at 20°C: in organic solvents 100%
Water solubility	at 20°C: multimiscible
Partition coefficient n-octanol/water	-0.24 log P(o/w)
	Bio-accumulation is not to be expected (log P(o/w) <1)
Auto-ignition temperature	465°C (Inflammation group G1)
Thermal decomposition	None
Viscosity, dynamic	At 20°C: 0.32 mPa*s
Explosive properties	Explosion category 1; Explosion group II A
Oxidising characteristics	Highly flammable liquid and vapour
9.2 Other information	
Ignition temperature	465°C (Inflammation group G1)
Refractive index	At 20°C: 1.358 – 1.359
Additional information	Molar mass: 58.09 g/mol
Dissociation constant	24.2 pKa at 25°C
Evaporation rate	2.0 (ether = 1)
Evaporation rate	5.6 (BuAc = 1)
Saturation concentration at 20°C	550 g/m ³



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10. STABILITY AND REACTIVITY

10.1 Reactivity

Acetone reacts in presence of bases. Vapours form potentially explosive mixtures with air. Heavier than air, they proceed at floor level and may backflash over great distances when ignited. May become electrostatically charged.

10.2 Chemical stability

Product is stable under normal storage conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known.

10.4 Conditions to avoid

Highly flammable. Concentrated vapours are heavier than air. Take precautionary measures against static discharges. Forms explosive mixtures with air, also in empty, uncleaned containers. May produce, when being mixed with chloridised hydrocarbons and exposed to light, strongly irritating chloric acetone.

10.5 Incompatible materials

Attacks many plastics and rubbers. On contact with barium hydroxide, sodium hydroxide and many other alkaline materials condensation may occur. Avoid contact with strong oxidizing agents, alkalis and amines.

10.6 Hazardous decomposition products

In case of fire may be liberated: Carbon monoxide and carbon dioxide

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

LD50 Rat 5800 mg/kg bw (OECD 401)

Acute Dermal Toxicity

LD50 Rat >15800 mg/kg bw

Acute Inhalative Toxicity

LC50 Rat 76 mg/L/4h

Toxicological effects

Acute toxicity (oral): Based on available data, the classification criteria are not met.

Acute toxicity (dermal): Based on available data, the classification criteria are not met.

Acute toxicity (inhalative): Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Based on available data, the classification criteria are not met. Specific symptoms in animal studies (guinea pig): Does not cause irritation.

Eye damage/irritation: Eye Irrit. 2; H319 = Causes serious eye irritation. Specific symptoms in animal studies (Rabbit): irritant (OECD 405)

Sensitisation to the respiratory tract: Based on available data, the classification criteria are not met.

Skin sensitisation: Based on available data, the classification criteria are not met.

Sensitisation: Specific symptoms in animal studies (guinea pig): not sensitising (OECD 406)

Germ cell mutagenicity/Genotoxicity: Based on available data, the classification criteria are not met.

Not mutagenic in bacterial mutagenicity (OECD 471) Chromosomal aberrations, in-vitro (OECD 473): negative
Gene-mutations mammalian cells, in-vitro (OECD 476): negative

Micronucleus test in-vivo mouse/hamster (non-Guideline): negative

Carcinogenicity: Based on available data, the classification criteria are not met. Not carcinogen at long term exposure (mouse, dermal).

Reproductive toxicity: Based on available data, the classification criteria are not met. Effects on fertility: No impairment of reproductive performance in animal experiments.

Developmental toxicity: None developmental toxicity (inhalation at Rat, Mouse, OECD 414).

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): STOT SE 3; H336 = May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): Based on available data, the classification criteria are not met.

NOAEL Rat, oral: 900 mg/kg/90d bw/d. NOAEC Rat, inhalative: 22500 mg/m³/8w

Aspiration hazard: Based on available data, the classification criteria are not met.

Other information

Short term effect: 10000 ppm were well-tolerated. No symptoms did appear after 30 to 60 minutes.

Symptoms

Burning eyes and skin. Fatigue, nausea, Headache, dizziness, unconsciousness.

In case of inhalation: For the development of any overt signs of toxicity in humans, accidental exposures to extremely large amounts of acetone by inhalation of vapour or ingestion of liquid are necessary (e. g. several thousand ppm of acetone vapour).

In case of ingestion: Gastric and intestinal problems.

After contact with skin: Irritant. Repeated exposure may cause skin dryness or cracking, due to defatting properties.



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No indication for sensitising properties in humans.

After eye contact: Causes serious eye irritation.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic toxicity - Acute effects

Fish toxicity:

Freshwater species: 96h LC50 (Oncorhynchus mykiss): 5540 mg/l

Marine species: 96h LC50 (Alburnus alburnus (aburnum)): 11000 mg/l

Invertebrate toxicity:

Freshwater species: 48h EC50 (Daphnia pulex (water flea)): 8800 mg/l

Marine species: 24h EC50 (Artemisia salina): 2100 mg/l

Algae toxicity:

Freshwater species: 8h NOEC (Microcystis aeruginosa): 530 mg/l/8 d

Marine species: 96h NOEC (Prorocentrum minimum): 430 mg/l

Bacterial toxicity:

EC12: (30 min activated sludge; OECD 209): 1000 mg/l

Long term effects

Long term toxicity to aquatic invertebrates:

28 day NOEC (Daphnia pulex (water flea); reproduction: 2212 mg/l

No information on longer term effects of fish and algae available

Long term effects on aquatic organisms are not relevant due to the rapid elimination in water

12.2 Persistence and degradability

Further details

Abiotic degradation:

DT50, 19-114 d (Air, indirect photodegradation by reaction with OH radicals)

Abiotic degradation: none (Water, hydrolysis)

Biodegradation:

91%/28d (OECD 301B)

ThOD 84%/5d (BOD5, APHA 219)

COD: 2.21 gO₂/g

Product is readily biodegradable

Effects on sewage plant:

In activated sludge: 100%/4d (anaerobic conditions; Warburg Respirometer)

12.3 Bio accumulative potential

Bioconcentration factor (BCF): 3 (calculated, BCFWIN v2.17)

12.4 Mobility in soil

Adsorption coefficient soil (Kd): 1.5 L/kg at 20°C

The soil sorption coefficient indicates that acetone is mobile in soil and may be transported by soil water

Volatility:

Henry constant: 2.929 – 3.070 Pa·m³/mol (25°C in water)

Henry constant: 3.311 Pa·m³/mol (25°C marine water)

Experimentally determined Henry's Law constants indicate a moderate volatility from water

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBHT/vPvB criteria of REACH, annex XIII

12.6 Other adverse effects

General information

Terrestrial toxicity:

48h LD50 (Eisenia fetida): 0.1 – 1 mg/cm³

48h LD50 (Ambystoma mexicanum): 20000 mg/l

48h LD50 (Xenopus laevis): 24000 mg/l

In a study conducted according to OECD Guideline 207 (Earthworm, Acute Toxicity Tests: filter paper contact test), acetone showed a moderate toxicity to Eisenia fetida. In further short term toxicity studies, Ambystoma mexicanum and Xenopus laevis larvae exposed to acetone under static conditions in covered glass basins showed 48h LC50 values of 20,000 mg/l and 24,000 mg/l respectively

Do not allow to enter into ground water, surface water or drains

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Waste key number: 070104* =

Wastes from the manufacture, formulation, supply and use (MFSU) of basic organic chemicals: organic solvents, halogen free. * = Evidence for disposal must be provided



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Recommendation

Incinerate as hazardous waste according to applicable local, state, and federal regulations. Do not dispose of with household waste

Contaminated packaging

Recommendation

Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself. Non-contaminated packages may be recycled

14. TRANSPORT INFORMATION

14.1 UN Number

ADR

1090

IMDG

1090

IATA

1090

14.2 Proper Shipping Name

ADR

UN 1090, ACETONE

IMDG

ACETONE

IATA

ACETONE



14.3 Transport hazard class

ADR

Class 3, Code: F1

IMDG

Class 3, Sub risk -

IATA

Class 3

14.4 Packing group

ADR

II

IMDG

II

IATA

II

14.5 Environmental

Marine pollutant

No

14.6 Special precautions for users

Land transport (ADR/RID)

Warning board

ADR/RID: Kemler number 33, UN number 1090

Hazard label

3

Limited quantities

1L

EQ

E2

Contaminated packaging: Instructions

P001 IBC 02 R001

Special provisions for packing together

MP19

Portable tanks: Instructions

T4

Portable tanks: Special instructions

TP1

Tank coding:

LGBF

Tunnel restriction code:

D/E

Sea Transport (IMDG)

EmS:

F-E, S-D

Special provisions

-

Limited quantities

1L

EQ

E2

Contaminated packaging: Instructions

P001

Contaminated packaging: Provisions

-

IBC: Instructions

IBC02

IBC: Provisions

-

Tank instructions: IMO

-

Tank instructions: UN

T4

Tank instructions: Provisions

TP1

Stowage and segregation

Category E

Air Transport (IATA)

Hazard

Flamm. Liquid

EQ

E2

Passenger Ltd Qty

Pack.Instr. Y341 - Max. Net Qty/Pkg. 1 L

Passenger

Pack.Instr. 353 - Max. Net Qty/Pkg. 5 L

Cargo

Pack.Instr. 364 - Max. Net Qty/Pkg. 60 L



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ERG	3H
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Pollution category: Z Vessel type: - Product name: Acetone	
15. REGULATORY INFORMATION	
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
National regulations – Great Britain Hazchem-Code: •2YE No data available	
National regulations - EC member states Volatile organic compounds (VOC): 100 % by weight = 790 g/l	
15.2 Chemical safety assessment For this substance a chemical safety assessment has been carried out	
16. OTHER INFORMATION	
Further remarks Literature: REACH Registration Dossier Acetone. P & D-REACH Consortium, 2010	
Source of key data used to compile the data sheet Supplier information	
Modifications from last revision The Safety Data Sheet has been revised throughout in accordance with current requirements Date: 26/01/17 Copyright© Tennants Distribution Limited (2017)	

Exposure scenario 0: Generic exposure scenario (GES): Industrial Processes relevant for Acetone containing products (ES 1 - 11)

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Generic exposure scenario, applies to all contributing exposure scenarios related to exposure scenario 1 - 11: industrial uses

- ES1 - Manufacture, processing and distribution of substances and mixtures
- ES2 - Use in laboratories
- ES3 - Uses in coatings
- ES4 - Use in binders and release agents
- ES5 - Rubber production and processing
- ES6 - Polymer manufacturing
- ES7 - Polymer processing
- ES8 - Use in cleaning agents
- ES9 - Use in oil and gas field drilling and production operations
- ES10 - Blowing agents
- ES11 - Mining chemicals

Contributing Scenarios:	1	Use in closed process, no likelihood of exposure General exposures (closed systems) (worker)	Page 15
	2	Use in closed, continuous process with occasional controlled exposure General exposures (closed systems) (worker)	Page 15
	3	Use in closed batch process (synthesis or formulation) General exposures (closed systems) (worker)	Page 16
	4	Use in batch and other process (synthesis) where opportunity for exposure arises Process sampling (open systems) (worker)	Page 16
	5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Mixing operations (open systems) (worker)	Page 17
	6	Calendering operations Calendering (including Banburys) (worker)	Page 17
	7	Industrial spraying Spraying/fogging by machine application (worker)	Page 18
	8	Industrial spraying Spraying/fogging by machine application (worker)	Page 18
	9	Industrial spraying Spraying/fogging by machine application (worker)	Page 18
	10	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities Bulk transfers (worker)	Page 19
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Contributing Scenarios:	15	Use of blow agents in manufacture of foam Foaming (worker)	Page 21
	16	Treatment of articles by dipping and pouring Dipping, immersion and pouring (worker)	Page 22
	17	Production of preparations or articles by tableting, compression, extrusion, pelletisation (worker)	Page 22
	18	Use in laboratory reagents (small scale) Laboratory activities (worker)	Page 23
	19	Hand-mixing with intimate contact and only PPE available Hand application - Finger paints, pastels (worker)	Page 23

Contributing exposure scenario 1

Use in closed process, no likelihood of exposure General exposures (closed systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 0.01 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.002

inhalative: 0.00002

dermal: 0.002

all relevant routes: 0.002

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Operational conditions and risk management measures:

(closed systems); Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 2

Use in closed, continuous process with occasional controlled exposure General exposures (closed systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 50 ppm

dermal: 1.37 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.11

inhalative: 0.10

dermal: 0.01

all relevant routes: 0.11

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Operational conditions and risk management measures:

Continuous process, Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 3

Use in closed batch process (synthesis or formulation)

General exposures (closed systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.2

inhalative: 0.20

dermal: 0.002

all relevant routes: 0.20

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Operational conditions and risk management measures:

Batch process, Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 4

Use in batch and other process (synthesis) where opportunity for exposure arises

Process sampling (open systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm

dermal: 6.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.24

inhalative: 0.20

dermal: 0.04

all relevant routes: 0.24

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 5

Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Mixing operations (open systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.57

inhalative: 0.50

dermal: 0.07

all relevant routes: 0.57

Risk management measures

Operational conditions and risk management measures:

Batch process, Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 6

Calendering operations

Calendering (including Banburys) (worker)

List of use descriptors

Process categories [PROC]:

PROC6: Calendering operations

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 27.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.65

inhalative: 0.50

dermal: 0.15

all relevant routes: 0.65

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 7

Industrial spraying

Spraying/fogging by machine application (worker)

List of use descriptors

Process categories [PROC]:

PROC7: Industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 25 ppm (with local exhaust ventilation, efficiency of 95%)

dermal: 2.14 mg/kg/d (with local exhaust ventilation, efficiency of 95%)

Risk characterisation ratio (RCR):

RCR: 0.06

inhalative: 0.05

dermal: 0.01

all relevant routes: 0.06

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure material transfers are under containment or extract ventilation.

Operational conditions and risk management measures:

with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 8

Industrial spraying

Spraying/fogging by machine application (worker)

List of use descriptors

Process categories [PROC]:

PROC7: Industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 350 ppm (dilution ventilation effectiveness 30 %)

dermal: 42.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.93

inhalative: 0.70

dermal: 0.23

all relevant routes: 0.93

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure operation is undertaken outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 9

Industrial spraying

Spraying/fogging by machine application (worker)

List of use descriptors

Process categories [PROC]:

PROC7: Industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 50 ppm (Respiratory protective device, efficiency of 90%)
dermal: 42.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.33
inhalative: 0.10
dermal: 0.23
all relevant routes: 0.33

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Wear a respirator conforming to EN140 with Type A filter or better.

Contributing exposure scenario 10

Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Bulk transfers (worker)

List of use descriptors

Process categories [PROC]:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm
dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.57
inhalative: 0.50
dermal: 0.07
all relevant routes: 0.57

Risk management measures

Operational conditions and risk management measures:

Non-dedicated facility, transfer from/pouring from containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 11

Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Bulk transfers (worker)

List of use descriptors

Process categories [PROC]:

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 150 ppm
dermal: 6.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.34
inhalative: 0.30
dermal: 0.037
all relevant routes: 0.34

Risk management measures

Operational conditions and risk management measures:

Dedicated facility, transfer from/pouring from containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 12

Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Small package filling (worker)

List of use descriptors

Process categories [PROC]:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 200 ppm
dermal: 6.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.44
inhalative: 0.40
dermal: 0.04
all relevant routes: 0.44

Risk management measures

Operational conditions and risk management measures:

Dedicated facility, pouring from small containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 13

Roller application or brushing

Rolling, Brushing (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 27.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.65

inhalative: 0.50

dermal: 0.15

all relevant routes: 0.65

Risk management measures

Operational conditions and risk management measures:

Or: Equipment cleaning and maintenance

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 14

Roller application or brushing

Equipment cleaning and maintenance (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 27.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.65

inhalative: 0.50

dermal: 0.15

all relevant routes: 0.65

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 15

Use of blow agents in manufacture of foam

Foaming (worker)

List of use descriptors

Process categories [PROC]:

PROC12: Use of blowing agents in manufacture of foam

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.2

inhalative: 0.20

dermal: 0.00

all relevant routes: 0.20

Risk management measures

Operational conditions and risk management measures:

Production of foam-based objects

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 16

Treatment of articles by dipping and pouring Dipping, immersion and pouring (worker)

List of use descriptors

Process categories [PROC]:

PROC13: Treatment of articles by dipping and pouring

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.57

inhalative: 0.50

dermal: 0.074

all relevant routes: 0.57

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 17

Production of preparations or articles by tableting, compression, extrusion, pelletisation (worker)

List of use descriptors

Process categories [PROC]:

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 50 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.1

inhalative: 0.10

dermal: 0.00

all relevant routes: 0.10

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 18

Use in laboratory reagents (small scale)

Laboratory activities (worker)

List of use descriptors

Process categories [PROC]:

PROC15: Use as laboratory reagent

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 50 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.1

inhalative: 0.10

dermal: 0.00

all relevant routes: 0.10

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 19

Hand-mixing with intimate contact and only PPE available

Hand application - Finger paints, pastels (worker)

List of use descriptors

Process categories [PROC]:

PROC19: Hand-mixing with intimate contact and only PPE available

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 28.29 mg/kg/d (Gloves, efficiency of 80%)

Risk characterisation ratio (RCR):

RCR: 0.65

inhalative: 0.50

dermal: 0.15

all relevant routes: 0.65

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Wear suitable gloves tested to EN374.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Exposure scenario 1: Manufacture, processing and distribution of substances and mixtures *

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Manufacture, Processing, Composition, Distribution.

Includes recycling/recovery, material transfers, storage, maintenance and loading (including marine vessel/barge, road/rail car and bulk container), sampling and associated laboratory activities.

* Examples for processing:

use as an intermediate,

use as a monomer etc.,

use as a solvent,

use for the manufacturing of resins

Remark:

Process categories [PROC]

PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Control of worker exposure:

See section risk management measures

Human Health, Worker exposure and risk assessment:

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:

<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:

ERC1, ERC2, ERC4, ERC6a

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 1: Manufacture, processing and distribution of substances and mixtures (environment)	Page 25
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 1: Manufacture, processing and distribution of substances and mixtures (worker)	Page 26

Contributing exposure scenario 1

General information

**Applies to all contributing exposure scenarios related to exposure scenario 1:
Manufacture, processing and distribution of substances and mixtures (environment)**

List of use descriptors

Environmental release categories [ERC]:

ERC1: Manufacture of substances

ERC2: Formulation of preparations

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

**Applies to all contributing exposure scenarios related to exposure scenario 1:
Manufacture, processing and distribution of substances and mixtures (worker)**

List of use descriptors

Process categories [PROC]:

- PROC1: Use in closed process, no likelihood of exposure
- PROC2: Use in closed, continuous process with occasional controlled exposure
- PROC3: Use in closed batch process (synthesis or formulation)
- PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
- PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
- PROC6: Calendering operations
- PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
- PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
- PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
- PROC10: Roller application or brushing
- PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation
- PROC15: Use as laboratory reagent

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently).

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently).

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 2: Use in laboratories

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: use of the substance within laboratory settings, including material transfers and equipment cleaning

Remark: Process categories [PROC]
PROC10, PROC15
Process Categories (additionally): PROC19
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC4

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 2: Use in laboratories (environment)	Page 28
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 2: Use in laboratories (worker)	Page 29

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 2: Use in laboratories (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 2: Use in laboratories (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

PROC15: Use as laboratory reagent

PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 3: Uses in coatings

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Covers the use in coatings (paints, inks, adhesives, etc), including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation).

Remark: Process categories [PROC]
PROC5, PROC8a, PROC8b, PROC10, PROC13
Process Categories (additionally):
PROC1, PROC2, PROC3, PROC4, PROC7, PROC8b, PROC9, PROC15, PROC19
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC4

Environment, ECT acetone:
Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 3: Uses in coatings (environment)	Page 31
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 3: Uses in coatings (worker)	Page 32

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 3: Uses in coatings (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 3: Uses in coatings (worker)

List of use descriptors

Process categories [PROC]:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC7: Industrial spraying
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC15: Use as laboratory reagent
PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Duration and frequency of use:

Covers daily exposures up to 8h

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 4: Use in binders and release agents

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting and handling of waste

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC5

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 4: Use in binders and release agents (environment)	Page 34
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 4: Use in binders and release agents (worker)	Page 35

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 4: Use in binders and release agents (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC5: Industrial use resulting in inclusion into or onto a matrix

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 4: Use in binders and release agents (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC6: Calendering operations
PROC7: Industrial spraying
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 5: Rubber production and processing

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Manufacture of tyres and general rubber articles, including processing of raw (uncured) rubber, handling and mixing of rubber additives, vulcanising, cooling and finishing.

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC6d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 5: Rubber production and processing (environment)	Page 37
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 5: Rubber production and processing (worker)	Page 38

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 5: Rubber production and processing (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 5: Rubber production and processing (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC6: Calendering operations

PROC7: Industrial spraying

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10: Roller application or brushing

PROC13: Treatment of articles by dipping and pouring

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 6: Polymer manufacturing

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Manufacturing of formulated polymers including material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC6d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 6: Polymer manufacturing (environment)	Page 40
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 6: Polymer manufacturing (worker)	Page 41

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 6: Polymer manufacturing (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 6: Polymer manufacturing (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC6: Calendering operations

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10: Roller application or brushing

PROC13: Treatment of articles by dipping and pouring

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

PROC15: Use as laboratory reagent

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 7: Polymer processing

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Processing of formulated polymers including incidental exposures during material transfers, additives handling (e.g. pigments, stabilisers, fillers, plasticisers, etc.), moulding, curing and forming activities, material re-works, storage and associated maintenance

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC6d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 7: Polymer processing (environment)	Page 43
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 7: Polymer processing (worker)	Page 44

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 7: Polymer processing (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 7: Polymer processing (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC6: Calendaring operations
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation
PROC15: Use as laboratory reagent

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 8: Use in cleaning agents

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand) related equipment cleaning and maintenance

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC19
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC4d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 9: Use in cleaning agents (environment)	Page 46
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 9: Use in cleaning agents (worker)	Page 47

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 9: Use in cleaning agents (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 9: Use in cleaning agents (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC7: Industrial spraying
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC13: Treatment of articles by dipping and pouring
PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 9: Use in oil and gas field drilling and production operations

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Covers the use as a component of cleaning products including transfer from storage, pouring/unloading from drums or containers

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b

Control of worker exposure:
See section risk management measures

Human Health, Worker exposure and risk assessment:

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC4

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 10: Use in oil and gas field drilling and production operations (environment)	Page 49
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 10: Use in oil and gas field drilling and production operations (worker)	Page 50

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 10: Use in oil and gas field drilling and production operations (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 10: Use in oil and gas field drilling and production operations (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

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Exposure scenario 10: Blowing agents

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Use as a blowing agent for rigid and flexible foams, including material transfers, mixing and injection, curing, cutting, storage and packing.

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC4 (ERC10a)

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 11: Blowing agents (environment)	Page 52
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 11: Blowing agents (worker)	Page 53

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 11: Blowing agents (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

ERC10a: Wide dispersive outdoor use of long-life articles and materials with low release

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 11: Blowing agents (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC12: Use of blowing agents in manufacture of foam

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

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Exposure scenario 11: Mining chemicals

List of use descriptors

Sector of uses [SU]: SU3: Industrial uses

Application

Activities and processes: Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and separation activities, and substance recovery and disposal

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC8b, PROC9

Control of worker exposure:

See section risk management measures

Human Health, Worker exposure and risk assessment:

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC8d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 12: Mining chemicals (environment)	Page 55
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 12: Mining chemicals (worker)	Page 56

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 12: Mining chemicals (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8d: wide dispersive outdoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 12: Mining chemicals (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 0 industrial

Risk characterisation ratio (RCR):

refer to GES No. 0 industrial

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

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Exposure scenario 12: Generic exposure scenario (GES): Professional Processes relevant for Acetone containing products (ES 13 - 22)
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List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Generic exposure scenario, applies to all contributing exposure scenarios related to exposure scenario 13 - 22 (professional uses):

- ES13 - Use in laboratories
- ES14 - Uses in coatings
- ES15 - Use in binders and release agents
- ES16 - Polymer manufacturing
- ES17 - Polymer processing
- ES18 - Use in cleaning agents
- ES19 - Use in oil and gas field drilling and production operations
- ES20 - Agrochemical uses
- ES21 - De-icing and anti-icing applications
- ES22 - Explosives manufacture & use

Contributing Scenarios:	1	Use in closed process, no likelihood of exposure General exposures (closed systems) (worker)	Page 59
	2	Use in closed, continuous process with occasional controlled exposure General exposures (closed systems) (worker)	Page 60
	3	Use in closed batch process (synthesis or formulation) General exposures (closed systems) (worker)	Page 60
	4	Use in batch and other process (synthesis) where opportunity for exposure arises Process sampling (open systems) (worker)	Page 61
	5	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Mixing operations (open systems) (worker)	Page 61
	6	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Mixing operations (open systems) (worker)	Page 62
	7	Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Mixing operations (open systems) (worker)	Page 62
	8	Calendering operations Calendering (including Banburys); with local exhaust ventilation (worker)	Page 63
	9	Calendering operations Calendering (including Banburys) (worker)	Page 63
	10	Calendering operations Calendering (including Banburys) (worker)	Page 64
	11	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities Bulk transfers (worker)	Page 64
	12	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities Bulk transfers (worker)	Page 65
	13	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities Bulk transfers (worker)	Page 66

Contributing Scenarios:	14	Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities Bulk transfers (worker)	Page 66
	15	Transfer of substance or preparation into small containers (dedicated filling line, including weighing) Small package filling (worker)	Page 67
	16	Roller application or brushing Equipment cleaning and maintenance (worker)	Page 67
	17	Roller application or brushing Equipment cleaning and maintenance (worker)	Page 68
	18	Roller application or brushing Equipment cleaning and maintenance (worker)	Page 68
	19	Non industrial spraying Spraying/fogging by manual application (worker)	Page 69
	20	Non industrial spraying Spraying/fogging by manual application (worker)	Page 69
	21	Non industrial spraying Spraying/fogging by manual application (worker)	Page 70
	22	Non industrial spraying Spraying/fogging by manual application (worker)	Page 70
	23	Treatment of articles by dipping and pouring Dipping, immersion and pouring (worker)	Page 70
	24	Production of preparations or articles by tableting, compression, extrusion, pelletisation (worker)	Page 71
	25	Production of preparations or articles by tableting, compression, extrusion, pelletisation (worker)	Page 71
	26	Use in laboratory reagents, Laboratory activities (small scale) (worker)	Page 72
	27	Hand-mixing with intimate contact and only PPE available (PPE) Hand application - Finger paints, Pastels, adhesives (worker)	Page 72
	28	Hand-mixing with intimate contact and only PPE available (PPE) Hand application - Finger paints, Pastels, adhesives (worker)	Page 73

Contributing exposure scenario 1

Use in closed process, no likelihood of exposure

General exposures (closed systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 0.01 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.002

inhalative: 0.00002

dermal: 0.002

all relevant routes: 0.002

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Operational conditions and risk management measures:

(closed systems); Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 2

Use in closed, continuous process with occasional controlled exposure

General exposures (closed systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC2: Use in closed, continuous process with occasional controlled exposure

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 50 ppm

dermal: 1.37 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.11

inhalative: 0.10

dermal: 0.01

all relevant routes: 0.11

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Operational conditions and risk management measures:

Continuous process; Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 3

Use in closed batch process (synthesis or formulation)

General exposures (closed systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC3: Use in closed batch process (synthesis or formulation)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.2

inhalative: 0.20

dermal: 0.002

all relevant routes: 0.20

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.

Operational conditions and risk management measures:

Batch process. Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 4

Use in batch and other process (synthesis) where opportunity for exposure arises Process sampling (open systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 6.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.54

inhalative: 0.50

dermal: 0.04

all relevant routes: 0.54

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 5

Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) Mixing operations (open systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm (local exhaust ventilation - efficiency of at least [%]: 80)

dermal: 0.07 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 99)

Risk characterisation ratio (RCR):

RCR: 0.2

inhalative: 0.20

dermal: 0.00

all relevant routes: 0.20

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure material transfers are under containment or extract ventilation.

Operational conditions and risk management measures:

Batch process;
Process sampling;
with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 6

Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Mixing operations (open systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 350 ppm (dilution ventilation effectiveness: 30 %)

dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.77

inhalative: 0.70

dermal: 0.07

all relevant routes: 0.77

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure operation is undertaken outdoors.

Operational conditions and risk management measures:

Batch process
Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 7

Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Mixing operations (open systems) (worker)

List of use descriptors

Process categories [PROC]:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 300 ppm (exposure duration: 1 - 4 h)

dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.67

inhalative: 0.60

dermal: 0.07

all relevant routes: 0.67

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Avoid carrying out activities involving exposure for more than 4 h.

Operational conditions and risk management measures:

Batch process

Process sampling

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 8

Calendering operations

Calendering (including Banburys); with local exhaust ventilation (worker)

List of use descriptors

Process categories [PROC]:

PROC6: Calendering operations

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 420 ppm (local exhaust ventilation - efficiency of at least [%]: 80)

dermal: 27.43 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 95)

Risk characterisation ratio (RCR):

RCR: 0.99

inhalative: 0.84

dermal: 0.15

all relevant routes: 0.99

Risk management measures

Operational conditions and risk management measures:

Ensure operation is undertaken outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 9

Calendering operations

Calendering (including Banburys) (worker)

List of use descriptors

Process categories [PROC]:

PROC6: Calendering operations

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 420 ppm (dilution ventilation effectiveness: 30 %)
dermal: 27.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.99
inhalative: 0.84
dermal: 0.15
all relevant routes: 0.99

Risk management measures

Operational conditions and risk management measures:

Ensure operation is undertaken outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 10

Calendering operations

Calendering (including Banburys) (worker)

List of use descriptors

Process categories [PROC]:

PROC6: Calendering operations

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 360 ppm (exposure duration: 1 - 4 h)
dermal: 27.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.87
inhalative: 0.72
dermal: 0.15
all relevant routes: 0.87

Risk management measures

Operational conditions and risk management measures:

Avoid carrying out activities involving exposure for more than 4 h.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 11

Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Bulk transfers (worker)

List of use descriptors

Process categories [PROC]:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm (local exhaust ventilation - efficiency of at least [%]: 80)
dermal: 0.14 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 99)

Risk characterisation ratio (RCR):

RCR: 0.2
inhalative: 0.20
dermal: 0.001
all relevant routes: 0.20

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure material transfers are under containment or extract ventilation.

Operational conditions and risk management measures:

Non-dedicated facility
Transfer from/pouring from containers
with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 12

Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Bulk transfers (worker)

List of use descriptors

Process categories [PROC]:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 350 ppm (dilution ventilation effectiveness: 30 %)
dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.77
inhalative: 0.70
dermal: 0.07
all relevant routes: 0.77

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure operation is undertaken outdoors.

Operational conditions and risk management measures:

Non-dedicated facility
Transfer from/pouring from containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 13

Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
Bulk transfers (worker)

List of use descriptors

Process categories [PROC]:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 300 ppm (exposure duration: 1 - 4 h)
dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.67
inhalative: 0.60
dermal: 0.07
all relevant routes: 0.67

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Avoid carrying out activities involving exposure for more than 4 h.

Operational conditions and risk management measures:

Non-dedicated facility
Transfer from/pouring from containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 14

Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
Bulk transfers (worker)

List of use descriptors

Process categories [PROC]:

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm
dermal: 6.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.54
inhalative: 0.50
dermal: 0.04
all relevant routes: 0.54

Risk management measures

Operational conditions and risk management measures:

Dedicated facility
Transfer from/pouring from containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 15

Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Small package filling (worker)

List of use descriptors

Process categories [PROC]:

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 6.86 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.54

inhalative: 0.50

dermal: 0.04

all relevant routes: 0.54

Risk management measures

Operational conditions and risk management measures:

Dedicated facility;

Pouring from small containers

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 16

Roller application or brushing

Equipment cleaning and maintenance (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm (local exhaust ventilation - efficiency of at least [%]: 80)

dermal: 1.37 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 95)

Risk characterisation ratio (RCR):

RCR: 0.21

inhalative: 0.20

dermal: 0.007

all relevant routes: 0.21

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure material transfers are under containment or extract ventilation.

Operational conditions and risk management measures:

Or: Equipment cleaning and maintenance; with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 17

Roller application or brushing

Equipment cleaning and maintenance (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 300 ppm (TRA Concentration factor 5 - 25 %)

dermal: 16.46 mg/kg/d (TRA Concentration factor 5 - 25 %)

Risk characterisation ratio (RCR):

RCR: 0.69

inhalative: 0.60

dermal: 0.09

all relevant routes: 0.69

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Limit the substance content in the product to 25 %.

Operational conditions and risk management measures:

Or: Equipment cleaning and maintenance

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 18

Roller application or brushing

Equipment cleaning and maintenance (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 300 ppm (exposure duration: 1-4 h)

dermal: 27.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.75

inhalative: 0.60

dermal: 0.15

all relevant routes: 0.75

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Avoid carrying out activities involving exposure for more than 4 h.

Operational conditions and risk management measures:

Or: Equipment cleaning and maintenance

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 19

Non industrial spraying

Spraying/fogging by manual application (worker)

List of use descriptors

Process categories [PROC]:

PROC11: Non industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 200 ppm (local exhaust ventilation - efficiency of at least [%]: 80)

dermal: 2.14 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 98)

Risk characterisation ratio (RCR):

RCR: 0.41

inhalative: 0.40

dermal: 0.01

all relevant routes: 0.41

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure material transfers are under containment or extract ventilation.

Operational conditions and risk management measures:

with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 20

Non industrial spraying

Spraying/fogging by manual application (worker)

List of use descriptors

Process categories [PROC]:

PROC11: Non industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 252 ppm (local exhaust ventilation - efficiency of at least [%]: 30; TRA

Concentration factor 5 - 25 %; Exposure duration: 1-4 h)

dermal: 64.28 mg/kg/d (TRA Concentration factor 5 - 25 %)

Risk characterisation ratio (RCR):

RCR: 0.85

inhalative: 0.50

dermal: 0.35

all relevant routes: 0.85

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Limit the substance content in the product to 25 %. Ensure operation is undertaken outdoors. Avoid carrying out activities involving exposure for more than 4 h.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 21

Non industrial spraying
Spraying/fogging by manual application (worker)

List of use descriptors

Process categories [PROC]:

PROC11: Non industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 200 ppm (Exposure duration: 15 min - 1 h)

dermal: 107.14 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.98

inhalative: 0.40

dermal: 0.58

all relevant routes: 0.98

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Avoid carrying out activities involving exposure for more than 1 h.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 22

Non industrial spraying
Spraying/fogging by manual application (worker)

List of use descriptors

Process categories [PROC]:

PROC11: Non industrial spraying

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm (Respiratory protective device, efficiency of 90%)

dermal: 107.14 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.78

inhalative: 0.20

dermal: 0.58

all relevant routes: 0.78

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Wear a respirator conforming to EN140 with Type A filter or better.

Contributing exposure scenario 23

Treatment of articles by dipping and pouring
Dipping, immersion and pouring (worker)

List of use descriptors

Process categories [PROC]:

PROC13: Treatment of articles by dipping and pouring

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 250 ppm

dermal: 13.71 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.57

inhalative: 0.50

dermal: 0.07

all relevant routes: 0.57

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 24

Production of preparations or articles by tableting, compression, extrusion, pelletisation (worker)

List of use descriptors

Process categories [PROC]:

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm (local exhaust ventilation - efficiency of at least [%]: 80)

dermal: 0.34 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 90)

Risk characterisation ratio (RCR):

RCR: 0.2

inhalative: 0.20

dermal: 0.002

all relevant routes: 0.20

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Ensure material transfers are under containment or extract ventilation.

Operational conditions and risk management measures:

with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 25

Production of preparations or articles by tableting, compression, extrusion, pelletisation (worker)

List of use descriptors

Process categories [PROC]:

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 300 ppm (TRA exposure duration 1 - 4 h)

dermal: 3.43 mg/kg/d (local exhaust ventilation - efficiency of at least [%]: 90)

Risk characterisation ratio (RCR):

RCR: 0.62

inhalative: 0.60

dermal: 0.02

all relevant routes: 0.62

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Avoid carrying out activities involving exposure for more than 4 h.

Operational conditions and risk management measures:

with local exhaust ventilation

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 26

Use in laboratory reagents, Laboratory activities (small scale) (worker)

List of use descriptors

Process categories [PROC]:

PROC15: Use as laboratory reagent

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 50 ppm

dermal: 0.34 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.1

inhalative: 0.10

dermal: 0.002

all relevant routes: 0.10

Risk management measures

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Contributing exposure scenario 27

Hand-mixing with intimate contact and only PPE available (PPE)

Hand application - Finger paints, Pastels, adhesives (worker)

List of use descriptors

Process categories [PROC]:

PROC19: Hand-mixing with intimate contact and only PPE available

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 300 ppm (TRA Concentration factor 5 - 25 %)

dermal: 16.97 mg/kg/d (TRA Concentration factor 5 - 25 %; Gloves)

Risk characterisation ratio (RCR):

RCR: 0.96

inhalative: 0.60

dermal: 0.09

all relevant routes: 0.69

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Limit the substance content in the product to 25 %.

Conditions and measures related to personal protection, hygiene and health evaluation:

Wear suitable gloves tested to EN374.

Contributing exposure scenario 28

Hand-mixing with intimate contact and only PPE available (PPE)

Hand application - Finger paints, Pastels, adhesives (worker)

List of use descriptors

Process categories [PROC]:

PROC19: Hand-mixing with intimate contact and only PPE available

Exposure prediction

Exposure estimation and reference to its source:

inhalative: 100 ppm (TRA exposure duration 15 min - 1 h)

dermal: 141.43 mg/kg/d

Risk characterisation ratio (RCR):

RCR: 0.96

inhalative: 0.20

dermal: 0.76

all relevant routes: 0.96

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Avoid carrying out activities involving exposure for more than 1h.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use personal protective equipment as required.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

not applicable

Exposure scenario 13: Use in laboratories

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Use of small quantities within laboratory settings, including material transfers and equipment cleaning

Remark: Process categories [PROC]

PROC10, PROC15

Process Categories (additionally): PROC19

Control of worker exposure:

See section risk management measures

Human Health, Worker exposure and risk assessment:

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:

<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:

ERC8a

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 13: Use in laboratories (environment)	Page 74
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 13: Use in laboratories (worker)	Page 75

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 13: Use in laboratories (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8a: wide dispersive indoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 13: Use in laboratories (worker)

List of use descriptors

Process categories [PROC]:

PROC10: Roller application or brushing

PROC15: Use as laboratory reagent

PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Conditions and measures related to information and behavioural advice to consumers:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 14: Uses in coatings

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Remark: Process categories [PROC]
PROC5, PROC 8a, PROC10, PROC13
Process Categories (additionally): PROC1, PROC2, PROC3, PROC4, PROC8b, PROC9, PROC11, PROC15, PROC19
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>
Examples for Environmental release categories [ERC]:
ERC8a, ERC8c, ERC8d, ERC8f
Environment, ECT acetone:
Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>
Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 14: Uses in coatings (environment)	Page 77
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 14: Uses in coatings (worker)	Page 78

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 14: Uses in coatings (environment)

List of use descriptors

Environmental release categories [ERC]:
ERC8a: wide dispersive indoor use of processing aids in open systems
ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8d: wide dispersive outdoor use of processing aids in open systems
ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable
Amounts used:
Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.
Duration and frequency of use:
360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90

Operational conditions and risk management measures:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 14:

Uses in coatings (worker)

List of use descriptors

Process categories [PROC]:

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC10: Roller application or brushing

PROC13: Treatment of articles by dipping and pouring

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC11: Non industrial spraying

PROC15: Use as laboratory reagent

PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Conditions and measures related to information and behavioural advice to consumers:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 15: Use in binders and release agents

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Covers the use as binders and release agents including material transfers, mixing, application (including spraying and brushing), mould forming and casting and handling of waste

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC8a, ERC8b, ERC8c, ERC8d, ERC8e, ERC8f

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 15: Use in binders and release agents (environment)	Page 80
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 15: Use in binders and release agents (worker)	Page 81

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 15: Use in binders and release agents (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8a: wide dispersive indoor use of processing aids in open systems
ERC8b: Wide dispersive indoor use of reactive substances in open systems
ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8d: wide dispersive outdoor use of processing aids in open systems
ERC8e: Wide dispersive outdoor use of reactive substances in open systems
ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable
Amounts used:
Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.
Duration and frequency of use:
360 d/y
Other relevant operational conditions:
Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:
Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.
Risk characterisation ratio (RCR):
ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:
Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:
Please use the Excel-Tool 'ECT Acetone' to check your local conditions.
Conditions and measures related to external treatment of waste for disposal:
External treatment and disposal of waste should comply with applicable local and/or national regulations.
Conditions and measures related to external recovery of waste:
External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 15: Use in binders and release agents (worker)

List of use descriptors

Process categories [PROC]:
PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC6: Calendaring operations
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
PROC10: Roller application or brushing
PROC11: Non industrial spraying

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

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Exposure scenario 16: Polymer production

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Manufacturing of formulated polymers

Remark: Process categories [PROC]: PROC8a

Process Categories (additionally): PROC1, PROC2, PROC8b, PROC9, PROC14

Control of worker exposure:

See section risk management measures

Human Health, Worker exposure and risk assessment:

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:

<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:

ERC8a, ERC8d, ERC8c, ERC8f

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 16: Polymer production (environment)	Page 83
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 16: Polymer production (worker)	Page 84

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 16: Polymer production (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8a: wide dispersive indoor use of processing aids in open systems

ERC8d: wide dispersive outdoor use of processing aids in open systems

ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix

ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 16:

Polymer production (worker)

List of use descriptors

Process categories [PROC]:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 17: Polymer processing

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Processing of formulated polymers including material transfers, moulding and forming activities, material re-works and associated maintenance

Remark: Process categories [PROC]: PROC8a
Process Categories (additionally): PROC1, PROC2, PROC8b, PROC9, PROC14
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>
Examples for Environmental release categories [ERC]:
ERC8a, ERC8d, ERC8c, ERC8f
Environment, ECT acetone:
Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>
Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:

1	General information Applies to all contributing exposure scenarios related to exposure scenario 17: Polymer processing (environment)	Page 86
2	General information Applies to all contributing exposure scenarios related to exposure scenario 17: Polymer processing (worker)	Page 87

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 17: Polymer processing (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8a: wide dispersive indoor use of processing aids in open systems
ERC8d: wide dispersive outdoor use of processing aids in open systems
ERC8c: Wide dispersive indoor use resulting in inclusion into or onto a matrix
ERC8f: Wide dispersive outdoor use resulting in inclusion into or onto a matrix

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable
Amounts used:
Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 17:

Polymer processing (worker)

List of use descriptors

Process categories [PROC]:

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC14: Production of preparations or articles by tableting, compression, extrusion, pelletisation

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 18: Use in cleaning agents

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Covers the use as a component of cleaning products including pouring/unloading from drums or containers and exposures during mixing/diluting in the preparatory phase and cleaning activities (including spraying, brushing, dipping, wiping, automated and by hand).

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC19
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC8a, Environmental release categories (additionally): ERC8d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 18: Use in cleaning agents (environment)	Page 89
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 18: Use in cleaning agents (worker)	Page 90

Contributing exposure scenario 1

General information

**Applies to all contributing exposure scenarios related to exposure scenario 18:
Use in cleaning agents (environment)**

List of use descriptors

Environmental release categories [ERC]:

ERC8a: wide dispersive indoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.

Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.

Typical technical measures are closed systems or scrubbers or charcoal adsorbers.

Treat air emission to provide a typical removal efficiency of (%): 90

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 18:

Use in cleaning agents (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure

PROC2: Use in closed, continuous process with occasional controlled exposure

PROC3: Use in closed batch process (synthesis or formulation)

PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises

PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)

PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities

PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)

PROC10: Roller application or brushing

PROC11: Non industrial spraying

PROC13: Treatment of articles by dipping and pouring

PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 19: Oil field well drilling and production operations

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Covers the use as a component of cleaning products including pouring/unloading from drums or containers

Remark: Process categories [PROC]
PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC8d

Environment, ECT acetone:
Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 19: Oil field well drilling and production operations (environment)	Page 92
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 19: Oil field well drilling and production operations (worker)	Page 93

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 19: Oil field well drilling and production operations (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8d: wide dispersive outdoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 19: Oil field well drilling and production operations (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

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Exposure scenario 20: Agrochemical uses

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Use as an agrochemical excipient for application by manual or machine spraying, smokes and fogging; including equipment clean-downs and disposal.

Remark: Process categories [PROC]
PROC1, PROC2, PROC4, PROC8a, PROC8b, PROC11, PROC13, PROC19
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:

ERC8a, ERC8d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 20: Agrochemical uses (environment)	Page 95
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 20: Agrochemical uses (worker)	Page 96

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 20: Agrochemical uses (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8a: wide dispersive indoor use of processing aids in open systems

ERC8d: wide dispersive outdoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 20:

Agrochemical uses (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC11: Non industrial spraying
PROC13: Treatment of articles by dipping and pouring
PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 21: De-icing and anti-icing applications

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Ice prevention and de-icing of vehicles, aircraft and other equipment by spraying.

Remark: Process categories [PROC]

PROC1, PROC2, PROC8b, PROC11, PROC19

Control of worker exposure:

See section risk management measures

Human Health, Worker exposure and risk assessment:

Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:

<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:

ERC8d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 21: De-icing and anti-icing applications (environment)	Page 98
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 21: De-icing and anti-icing applications (worker)	Page 99

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 21: De-icing and anti-icing applications (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8d: wide dispersive outdoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

Applies to all contributing exposure scenarios related to exposure scenario 21: De-icing and anti-icing applications (worker)

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC2: Use in closed, continuous process with occasional controlled exposure
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC11: Non industrial spraying
PROC19: Hand-mixing with intimate contact and only PPE available

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 22: Explosives manufacture & use

List of use descriptors

Sector of uses [SU]: SU22: Professional uses

Application

Activities and processes: Covers exposures arising from the manufacture and use of slurry explosives including materials transfer, mixing and charging and equipment cleaning.

Remark: Process categories [PROC]
PROC1, PROC3, PROC5, PROC8a, PROC8b
Control of worker exposure:
See section risk management measures
Human Health, Worker exposure and risk assessment:
Exposure assessment and method: Shown are the result of the quantitative exposure and risk assessment prepared based on the 'GES Worker Chemical Safety Assessment (CSA) Template'. This tool can be downloaded from the CEFIC website:
<http://cefic.org/templates/shwPublications.asp?HID=750>

Examples for Environmental release categories [ERC]:
ERC8d

Environment, ECT acetone:

Please use the 'ECT Acetone' to check your local conditions. The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:
<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Guidance to check compliance with the exposure scenario: Guidance is based on assumed operating conditions which may not be applicable to all sites; thus, scaling may be necessary to define appropriate site-specific risk management measures.

Contributing Scenarios:	1	General information Applies to all contributing exposure scenarios related to exposure scenario 22: Explosives manufacture & use (environment)	Page 101
	2	General information Applies to all contributing exposure scenarios related to exposure scenario 22: Explosives manufacture & use (worker)	Page 102

Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 22: Explosives manufacture & use (environment)

List of use descriptors

Environmental release categories [ERC]:

ERC8d: wide dispersive outdoor use of processing aids in open systems

Operational conditions

Product characteristics: Substance is a unique structure, ketone, readily biodegradable

Amounts used:

Annual site tonnage (tons/year): Please use the Excel-Tool 'ECT Acetone' to calculate your maximum tonnage/year.

Duration and frequency of use:

360 d/y

Other relevant operational conditions:

Indoor/Outdoor use

Exposure prediction

Exposure estimation and reference to its source:

Common practices vary across sites thus conservative process release estimates used.
Please use the 'ECT Acetone' to check your local conditions.

Risk characterisation ratio (RCR):

ECT Acetone

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Common practices vary across sites thus conservative process release estimates used.
Typical technical measures are closed systems or scrubbers or charcoal adsorbers.
Treat air emission to provide a typical removal efficiency of (%): 90 %

Disposal considerations

Conditions and measures related to municipal sewage treatment plant:

Please use the Excel-Tool 'ECT Acetone' to check your local conditions.

Conditions and measures related to external treatment of waste for disposal:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Conditions and measures related to external recovery of waste:

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Contributing exposure scenario 2

General information

**Applies to all contributing exposure scenarios related to exposure scenario 22:
Explosives manufacture & use (worker)**

List of use descriptors

Process categories [PROC]:

PROC1: Use in closed process, no likelihood of exposure
PROC3: Use in closed batch process (synthesis or formulation)
PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact)
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities

Operational conditions

Product characteristics: liquid, vapour pressure > 10 kPa

Concentration of the substance in a mixture:

Covers percentage substance in the product up to 100 % (unless stated differently.)

Duration and frequency of use:

Covers daily exposures up to 8h (unless stated differently)

Other relevant operational conditions:

Assumes a good basic standard of occupational hygiene is implemented.

Exposure prediction

Exposure estimation and reference to its source:

refer to GES No. 12 professional

Risk characterisation ratio (RCR):

refer to GES No. 12 professional

Risk management measures

Technical conditions and measures at process level (source) to prevent release:

Provide a good standard of general ventilation. Natural ventilation is from doors, windows etc. Controlled ventilation means air is supplied or removed by a powered fan.

Operational conditions and risk management measures:

Locate bulk storage outdoors.

Conditions and measures related to personal protection, hygiene and health evaluation:

Use suitable eye protection.

If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

'ECT Acetone': The Excel-tool enables the performance of scaling calculation for specific local environmental conditions. It can be downloaded from the web page of the Phenol & Derivatives REACH-consortium:

<http://www.reachcentrum.eu/EN/consortium-management/consortia-under-reach/phenol-derivatives-reach-consortium.aspx>

Exposure scenario 23: Generic exposure scenario (GES): Consumer uses of Acetone (ES 24 - 26)

List of use descriptors

Sector of uses [SU]: SU21: Consumer uses

Application

Activities and processes: Generic exposure scenario, applies to all contributing exposure scenarios related to exposure scenario 24 - 26 (consumer uses):

ES24 - Uses in coatings
ES25 - Use in cleaning agents
ES26 - De-icing and anti-icing applications

Contributing Scenarios:	1	Adhesives, sealants	Page 105
		Glues, hobby use (Consumer)	
	2	Adhesives, sealants	Page 105
		Glues DIY-use (Consumer)	
	3	Adhesives, sealants	Page 106
		Glue from spray (Consumer)	
	4	Adhesives	Page 106
		Sealants (Consumer)	
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		Air care, instant action (aerosol sprays) (Consumer)	
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		Air care, continuous action (solid and liquid) (Consumer)	
	7	Anti-freeze and de-icing products	Page 108
		Washing car window (Consumer)	
	8	Anti-freeze and de-icing products	Page 108
		Pouring into radiator (Consumer)	
	9	Anti-freeze and de-icing products	Page 109
		Lock de-icer (Consumer)	
	10	Coatings and paints, fillers, putties, thinners	Page 109
		Waterborne latex wall paint (Consumer)	
	11	Coatings and paints, fillers, putties, thinners	Page 110
		Solvent rich, high solid, water borne paint (Consumer)	
	12	Coatings and paints, fillers, putties, thinners	Page 110
		Aerosol spray can (Consumer)	
	13	Coatings and paints, fillers, putties, thinners	Page 111
		Removers (paint-, glue-, wall paper-, sealant-remover) (Consumer)	
	14	Fillers, putties, plasters, modelling clay	Page 111
		Fillers and putty (Consumer)	
	15	Fillers, putties, plasters, modelling clay	Page 112
		Plasters and floor equalizers (Consumer)	
	16	Fillers, putties, plasters, modelling clay	Page 112
		Modelling clay (Consumer)	
	17	Finger paints (Consumer)	Page 113
	18	Non-metal-surface treatment products	Page 113
		Solvent rich, high solid, water borne paint (Consumer)	
	19	Non-metal-surface treatment products	Page 114
		Aerosol spray can (Consumer)	
	20	Non-metal-surface treatment products	Page 114
		Removers (paint-, glue-, wall paper-, sealant-remover) (Consumer)	
	21	Lubricants, greases, release products	Page 115
		Liquids (Consumer)	

Contributing Scenarios:	22	Lubricants, greases, release products Pastes (Consumer)	Page 115
	23	Lubricants, greases, release products Sprays (Consumer)	Page 116
	24	Polishes and wax blends Polishes, wax/cream (floor, furniture, shoes) (Consumer)	Page 116
	25	Polishes and wax blends Polishes, spray (furniture, shoes) (Consumer)	Page 117
	26	Washing and cleaning products (including solvent based products) Laundry and dish washing products (Consumer)	Page 117
	27	Washing and cleaning products (including solvent based products) Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (Consumer)	Page 118
	28	Washing and cleaning products (including solvent based products) Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (Consumer)	Page 118
	29	Welding and soldering products, flux products (Consumer)	Page 119

Contributing exposure scenario 1

Adhesives, sealants

Glues, hobby use (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC1: Adhesives, sealants

Operational conditions

Concentration of the substance in a mixture:

<= 30% (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y

1 application per day.

For each use event, covers use amounts up to 4 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 35.73 cm².

For each use event, covers use amounts up to 9 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 2

Adhesives, sealants

Glues DIY-use (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC1: Adhesives, sealants

Operational conditions

Concentration of the substance in a mixture:

<= 30% (unless otherwise stated)

Duration and frequency of use:

Covers use up to 1 d/y
1 application per day.
For each use event, covers use amounts up to 6 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 110 cm².
For each use event, covers use amounts up to 6390 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 3

Adhesives, sealants

Glue from spray (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC1: Adhesives, sealants

Operational conditions

Concentration of the substance in a mixture:

<= 30% (unless otherwise stated)

Duration and frequency of use:

Covers use up to 6 d/y
1 application per day.
For each use event, covers use amounts up to 4 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 35.73 cm².
For each use event, covers use amounts up to 85.05 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 4

Adhesives

Sealants (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC1: Adhesives, sealants

Operational conditions

Concentration of the substance in a mixture:

<= 30% (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y
1 application per day.
For each use event, covers use amounts up to 1 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 35.73 cm².
For each use event, covers use amounts up to 75 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 5

Air care products

Air care, instant action (aerosol sprays) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC3: Air care products

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y
Covers use up to 4x/ per day.
For each use event, covers use amounts up to 0.25 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

For each use event, covers use amounts up to 0.1 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 6

Air care products

Air care, continuous action (solid and liquid) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC3: Air care products

Operational conditions

Concentration of the substance in a mixture:

<= 10 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y
1 application per day.
For each use event, covers use amounts up to 8.0 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 35.70 cm².

For each use event, covers use amounts up to 0.48 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 7

Anti-freeze and de-icing products

Washing car window (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC4: Anti-freeze and de-icing products

Operational conditions

Concentration of the substance in a mixture:

<= 1 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y

1 application per day.

For each use event, covers use amounts up to 0.02 h.

Other relevant operational conditions:

Covers use in a one car garage (34m³) under typical ventilation. Covers use in room size of 34 m³. Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

For each use event, covers use amounts up to 0.5 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 8

Anti-freeze and de-icing products

Pouring into radiator (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC4: Anti-freeze and de-icing products

Operational conditions

Concentration of the substance in a mixture:

<= 10 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y

1 application per day.

For each use event, covers use amounts up to 0.17 h.

Other relevant operational conditions:

Covers use in a one car garage (34m³) under typical ventilation. Covers use in room size of 34 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 428 cm².

For each use event, covers use amounts up to 2000 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 9

Anti-freeze and de-icing products

Lock de-icer (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC4: Anti-freeze and de-icing products

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y

1 application per day.

For each use event, covers use amounts up to 0.25 h.

Other relevant operational conditions:

Covers use in a one car garage (34m³) under typical ventilation. Covers use in room size of 34 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 214.40 cm².

For each use event, covers use amounts up to 4 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 10

Coatings and paints, fillers, putties, thinners

Waterborne latex wall paint (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9a: Coatings and paints, thinners, paint removers

Operational conditions

Concentration of the substance in a mixture:

<= 1.5 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 4 d/y

1 application per day.

For each use event, covers use amounts up to 2.20 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 428.75 cm².

For each use event, covers use amounts up to 2760 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 11

Coatings and paints, fillers, putties, thinners

Solvent rich, high solid, water borne paint (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9a: Coatings and paints, thinners, paint removers

Operational conditions

Concentration of the substance in a mixture:

<= 27.5 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 6 d/y

1 application per day.

For each use event, covers use amounts up to 2.20 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 428.75 cm².

For each use event, covers use amounts up to 744 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 12

Coatings and paints, fillers, putties, thinners

Aerosol spray can (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9a: Coatings and paints, thinners, paint removers

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 2 d/y

1 application per day.

For each use event, covers use amounts up to 0.33 h.

Other relevant operational conditions:

Covers use in a one car garage (34m³) under typical ventilation. Covers use in room size of 34 m³.

Exposure prediction

Exposure estimation and reference to its source:

For each use event, covers use amounts up to 215 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 13

Coatings and paints, fillers, putties, thinners

Removers (paint-, glue-, wall paper-, sealant-remover) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9a: Coatings and paints, thinners, paint removers

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 3 d/y

1 application per day.

For each use event, covers use amounts up to 2 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 857.50 cm².

For each use event, covers use amounts up to 491 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 14

Fillers, putties, plasters, modelling clay

Fillers and putty (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9b: Fillers, putties, plasters, modelling clay

Operational conditions

Concentration of the substance in a mixture:

<= 2 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 12 d/y

1 application per day.

For each use event, covers use amounts up to 4 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 35.73 cm².
For each use event, covers use amounts up to 85 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 15

Fillers, putties, plasters, modelling clay Plasters and floor equalizers (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9b: Fillers, putties, plasters, modelling clay

Operational conditions

Concentration of the substance in a mixture:

<= 2 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 12 d/y
1 application per day.
For each use event, covers use amounts up to 2 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 857.50 cm².
For each use event, covers use amounts up to 13800 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 16

Fillers, putties, plasters, modelling clay Modelling clay (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9b: Fillers, putties, plasters, modelling clay

Operational conditions

Concentration of the substance in a mixture:

<= 1 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y
1 application per day.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 254.40 cm².
For each use event, assumes swallowed amount of 1 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 17

Finger paints (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC9c: Finger paints

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y
1 application per day.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 254.40 cm².
For each use event, assumes swallowed amount of 1.35 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 18

Non-metal-surface treatment products

Solvent rich, high solid, water borne paint (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC15: Non-metal-surface treatment products

Operational conditions

Concentration of the substance in a mixture:

<= 27.5 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 6 d/y
1 application per day.
For each use event, covers use amounts up to 2.2 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 428.75 cm².
For each use event, covers use amounts up to 744 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 19

Non-metal-surface treatment products

Aerosol spray can (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC15: Non-metal-surface treatment products

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 2 d/y

1 application per day.

For each use event, covers use amounts up to 0.33 h.

Other relevant operational conditions:

Covers use in a one car garage (34m³) under typical ventilation. Covers use in room size of 34 m³.

Exposure prediction

Exposure estimation and reference to its source:

For each use event, covers use amounts up to 215 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 20

Non-metal-surface treatment products

Removers (paint-, glue-, wall paper-, sealant-remover) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC15: Non-metal-surface treatment products

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 3 d/y

1 application per day.

For each use event, covers use amounts up to 2.00 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 857.50 cm².

For each use event, covers use amounts up to 491 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 21

Lubricants, greases, release products

Liquids (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC24: Lubricants, greases, release products

Operational conditions

Concentration of the substance in a mixture:

<= 100 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 4 d/y

1 application per day.

For each use event, covers use amounts up to 0.17 h.

Other relevant operational conditions:

Covers use in a one car garage (34m³) under typical ventilation. Covers use in room size of 34 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 468 cm².

For each use event, covers use amounts up to 2200 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 22

Lubricants, greases, release products

Pastes (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC24: Lubricants, greases, release products

Operational conditions

Concentration of the substance in a mixture:

<= 20 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 10 d/y

1 application per day.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 468 cm².

For each use event, covers use amounts up to 34 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 23

Lubricants, greases, release products

Sprays (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC24: Lubricants, greases, release products

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 6 d/y

1 application per day.

For each use event, covers use amounts up to 0,17 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 428.75 cm².

For each use event, covers use amounts up to 73 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 24

Polishes and wax blends

Polishes, wax/cream (floor, furniture, shoes) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC31: Polishes and wax blends

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 29 d/y

1 application per day.

For each use event, covers use amounts up to 1.23 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 430 cm².

For each use event, covers use amounts up to 142 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 25

Polishes and wax blends

Polishes, spray (furniture, shoes) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC31: Polishes and wax blends

Operational conditions

Concentration of the substance in a mixture:

<= 50 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 8 d/y

1 application per day.

For each use event, covers use amounts up to 0.33 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 430 cm².

For each use event, covers use amounts up to 35 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 26

Washing and cleaning products (including solvent based products)

Laundry and dish washing products (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC35: Washing and cleaning products (including solvent based products)

Operational conditions

Concentration of the substance in a mixture:

<= 5 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y

1 application per day.

For each use event, covers use amounts up to 0.50 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 857.50 cm².

For each use event, covers use amounts up to 15 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 27

Washing and cleaning products (including solvent based products)

Cleaners, liquids (all purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC35: Washing and cleaning products (including solvent based products)

Operational conditions

Concentration of the substance in a mixture:

<= 5 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 128 d/y

1 application per day.

For each use event, covers use amounts up to 0.33 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 857.50 cm².

For each use event, covers use amounts up to 27 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 28

Washing and cleaning products (including solvent based products)

Cleaners, trigger sprays (all purpose cleaners, sanitary products, glass cleaners) (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC35: Washing and cleaning products (including solvent based products)

Operational conditions

Concentration of the substance in a mixture:

<= 15 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 128 d/y

1 application per day.

For each use event, covers use amounts up to 0.17 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

Covers skin contact area up to 428 cm².

For each use event, covers use amounts up to 35 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Contributing exposure scenario 29

Welding and soldering products, flux products (Consumer)

List of use descriptors

Product (Sub-)Categories:

PC38: Welding and soldering products (with flux coatings or flux cores), flux products

Operational conditions

Concentration of the substance in a mixture:

<= 20 % (unless otherwise stated)

Duration and frequency of use:

Covers use up to 365 d/y

1 application per day.

For each use event, covers use amounts up to 1 h.

Other relevant operational conditions:

Covers use under typical household ventilation room size of 20 m³.

Exposure prediction

Exposure estimation and reference to its source:

For each use event, covers use amounts up to 12 g.

Risk management measures

Operational conditions and risk management measures:

No specific risk management measure identified beyond those operational conditions stated.

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

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Exposure scenario 24: Uses in coatings

List of use descriptors

Sector of uses [SU]: SU21: Consumer uses
Product Categories: PC1: Adhesives, sealants
PC4: Anti-freeze and de-icing products
PC5: Artists supply and hobby preparations
PC9: Coatings and paints, fillers, putties, thinners
PC10: Building and construction preparations not covered elsewhere
PC15: Non-metal-surface treatment products
PC24: Lubricants, greases, release products
PC31: Polishes and wax blends

Application

Activities and processes: Covers the use in coatings (paints, inks, adhesives, etc) and including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation) and equipment cleaning and maintenance and associated laboratory activities.

Remark: Product categories [PC]: PC1, PC4, PC5, PC9, PC10, PC15, PC24, PC31
Consumer exposure and risk assessment:
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Contributing Scenarios: 1 General information
Applies to all contributing exposure scenarios related to exposure scenario 24: Uses in coatings (Consumer)

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Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 24: Uses in coatings (Consumer)

List of use descriptors

Product (Sub-)Categories:
PC1: Adhesives, sealants
PC4: Anti-freeze and de-icing products
PC5: Artists supply and hobby preparations
PC9: Coatings and paints, fillers, putties, thinners
PC10: Building and construction preparations not covered elsewhere
PC15: Non-metal-surface treatment products
PC24: Lubricants, greases, release products
PC31: Polishes and wax blends

Operational conditions

Product characteristics: liquid
Vapour pressure: 24000 Pa

Concentration of the substance in a mixture:
Unless stated differently, covers percentage substance in the product up to 100 %

Duration and frequency of use:
Unless stated differently, covers frequency up to 4/d. For each use event, covers use amounts up to 8h.

Other relevant operational conditions:
Assumes activities are at ambient temperature (unless stated differently). Assumes a room volume of maximum [m3]: 20 m³. Assumes use with typical ventilation

Exposure prediction

Exposure estimation and reference to its source:

Unless stated differently, covers use up to 37500 g.

Covers skin contact area up to 6600 cm².

refer to GES No. 23 consumer uses

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

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Exposure scenario 25: Use in cleaning agents

List of use descriptors

Sector of uses [SU]: SU21: Consumer uses
Product Categories: PC3: Air care products
PC4: Anti-freeze and de-icing products
PC9: Coatings and paints, fillers, putties, thinners
PC24: Lubricants, greases, release products
PC32: Polymer preparations and compounds
PC35: Washing and cleaning products (including solvent based products)
PC38: Welding and soldering products (with flux coatings or flux cores), flux products

Application

Activities and processes: Covers general exposures to consumers arising from the use of household products sold as washing and cleaning products, aerosols, coatings, de-icers, lubricants and air care products.

Remark: Product categories [PC]: PC3, PC4, PC9, PC24, PC32, PC35, PC38
Consumer exposure and risk assessment:
Shown are the result of the quantitative exposure and risk assessment prepared based on the 'ESIG GES Consumer Tool'. This tool can be downloaded from the ESIG website:
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Contributing Scenarios: 1 General information
Applies to all contributing exposure scenarios related to exposure scenario 25: Use in cleaning agents (Consumer)

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Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 25: Use in cleaning agents (Consumer)

List of use descriptors

Product (Sub-)Categories:
PC3: Air care products
PC4: Anti-freeze and de-icing products
PC9: Coatings and paints, fillers, putties, thinners
PC24: Lubricants, greases, release products
PC32: Polymer preparations and compounds
PC35: Washing and cleaning products (including solvent based products)
PC38: Welding and soldering products (with flux coatings or flux cores), flux products

Operational conditions

Product characteristics: liquid
Vapour pressure: 24000 Pa
Concentration of the substance in a mixture:
Unless stated differently, covers percentage substance in the product up to 100 %
Duration and frequency of use:
Unless stated differently, covers frequency up to 4/d. For each use event, covers use amounts up to 8h.
Other relevant operational conditions:
Assumes activities are at ambient temperature (unless stated differently). Assumes a room volume of maximum [m3]: 20 m³. Assumes use with typical ventilation

Exposure prediction

Exposure estimation and reference to its source:

Unless stated differently, covers use up to 37500 g.

Covers skin contact area up to 6600 cm².

refer to GES No. 23 consumer uses

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

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Exposure scenario 26: De-icing and anti-icing applications

List of use descriptors

Sector of uses [SU]: SU21: Consumer uses
Product Categories: PC4: Anti-freeze and de-icing products

Application

Activities and processes: De-icing of vehicles and similar equipment by spraying.

Remark: Product categories [PC]: 4

Consumer exposure and risk assessment:

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Contributing Scenarios: 1 General information
Applies to all contributing exposure scenarios related to exposure scenario 26: De-icing and anti-icing applications (Consumer)

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Contributing exposure scenario 1

General information

Applies to all contributing exposure scenarios related to exposure scenario 26: De-icing and anti-icing applications (Consumer)

List of use descriptors

Product (Sub-)Categories:
PC4: Anti-freeze and de-icing products

Operational conditions

Product characteristics: liquid

Vapour pressure: 24000 Pa

Concentration of the substance in a mixture:

Unless stated differently, covers percentage substance in the product up to 100 %

Duration and frequency of use:

Unless stated differently, covers frequency up to 4/d. For each use event, covers use amounts up to 8h.

Other relevant operational conditions:

Assumes activities are at ambient temperature (unless stated differently). Assumes a room volume of maximum [m3]: 20 m³. Assumes use with typical ventilation

Exposure prediction

Exposure estimation and reference to its source:

Unless stated differently, covers use up to 37500 g.

Covers skin contact area up to 6600 cm².

refer to GES No. 23 consumer uses

Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

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