Responsible for distribution:
BRENNTAG N.V.
Nijverheidslaan 38 - BE-8540 DEERLIJK
TEL: +32(0)56/77.69.44 - FAX: +32(0)56/77.57.11
E-MAIL : info@brenntag.be - Website: www.brenntag.be

BRENNTAG Nederland B.V.
Donker Duyvisweg 44 - NL-3316 BM DORDRECHT
TEL: +31(0)78/65.44.944 - FAX: +31(0)78/65.44.919
E-MAIL : info@brenntag.nl - Website: www.brenntag.nl

In case of emergency:
Belgium:
Antipoison Center - Brussels :
TEL: 070/245.245

The Netherlands:
National Poisoning Information Center - Bilthoven :
TEL: 030/274.88.88

1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

* Chemical description : Acetone , 2-Propanone , Propan-2-one , Dimethyl ketone , DMK .

Type of product : Pure product .

* Reach registration number : 01-2119471330-49

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

* Identified use(s) : At this time we do not yet have information on identifed uses. They will be included when available.

* Use(s) advised against : At this time we do not yet have information on uses advised against. They will be included when available.

1.3. Details of the supplier of the safety data sheet

Company identification : See heading of Material Safety Data Sheet.

1.4. Emergency telephone number

Emergency phone number : See heading of Material Safety Data Sheet.

2. Hazards identification

2.1. Classification of the substance or mixture

Classification according to Directive 67/548/EEC or 1999/45/EC

F; R11
R66
R67
Xi; R36

Classification according to Regulation (EC) No 1272/2008

* Acetone

- Flammable liquids Cat.2 (H225_D)
- Eye irritation Cat.2 (H319_W)
- STOT Drowsiness-dizziness Cat.3 (H336_W)
- STOT (Repeated) Skin dryness-cracking (SP-R66)

2.2. Label elements

Label in accordance with Regulation (EC) No 1272/2008

• Dangerous ingredient(s) : Acetone

* • Hazard pictogram(s)

* • Signal word : Danger

2. Hazards identification (continued)

* • Hazard statements : H319 - Causes serious eye irritation. H225 - Highly flammable liquid and vapour. H336 - May cause drowsiness or dizziness. EUH066 - Repeated exposure may cause skin dryness or cracking.

* • Precautionary statements

* - Prevention : P210 - Keep away from heat, sparks, open flames or hot surfaces. – No smoking. P280 - Wear protective gloves, protective clothing, eye protection, face protection.

* - Response : P305+P351+P338 - IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P312 - Call a POISON CENTER or doctor if you feel unwell.

* - Storage : P403+P233 - Store in well-ventilated place. Keep container tightly closed.

* - Disposal considerations : P501 - Dispose of this material and its container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

2.3. Other hazards

* Physical/chemical hazards : See above.

* Hazards for the health : The product may cause central nervous system depression.

* Hazards for the environment : No significant danger. This product is no substance or contains no PBT or vPvB (in accordance with Annex XIII).

* Hazards for the safety : Vapour is heavier than air and spreads along the ground with risk of ignition on distance.

3. Composition/information on ingredients

3.1. Substances

	Name component(s)		Weight %	CAS nr	EINECS nr	EC annex nr	Reach nr	CLASSIFICATION
*	Acetone	:	100 %	67-64-1	200-662-2	606-001-00-8	01-2219471330-49	F; R11 R66 R67 Xi; R36 --- Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336 STOT SE EUH066

*

The full text of the R-phrases and (EU)H-statements is in section 16.

4. First aid measures

4.1. Description of first aid measures

General : In case of doubt or persistent symptoms, call a physician.
Never give anything by mouth to an unconscious person.

First Aid Measures

- Inhalation : Remove victim into fresh air.
Allow the affected person to rest.
If not breathing, give artificial respiration.
Consult a doctor.

- Skin Contact : Remove contaminated clothing.
Rinse skin immediately with plenty of water. (shower if necessary).
Consult doctor if irritation develops.

4. First aid measures (continued)

- Eye Contact : Rinse immediately thoroughly and long (at least 15 min.) with plenty of water.
  Remove contact lenses.
  Consult eye doctor.
  Do not use a neutralisation agent.
- Ingestion : DO NOT INDUCE VOMITING. Rinse mouth with water.
  Seek medical attention or take to hospital.

4.2. Most important symptoms and effects, both acute and delayed

* See section 11.

4.3. Indication of any immediate medical attention and special treatment needed

* For specialist advice doctors should contact the NVCI or the Belgian Poison center.

5. Firefighting measures

5.1. Extinguishing media

Extinguishing Media

- Suitable : Powder , Alcohol resistant foam , Carbon dioxide , Water spray .
- Not to be used : Do not use a heavy water stream, in order to avoid the fire to extend.

5.2. Special hazards arising from the substance or mixture

Special Exposure Hazards : Fire may liberate carbon oxides (CO) and smoke.

5.3. Advice for firefighters

Special Protective Equipment for Firefighters : Use self-contained breathing apparatus when in close proximity to fire.

Special Procedures : Apply water spray or fog to cool nearby equipment. Avoid fire-fighting water to enter environment.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal Precautions : Eliminate every possible source of ignition (open fire, sparks, smoking, ...).
Evacuate all personnel immediately and ventilate area.
Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)

6.2. Environmental precautions

Environmental Precautions : Shut off leaks if without risks.
Dike in the spilled product as much as possible with inert material.
Prevent entry of product in public water, sewers or soil.
Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for Cleaning Up : Collect the spillage in closable, suitable disposal containers.
Clean up any spills as soon as possible, using an inert absorbent material and eliminate as hazardous waste. (See section 13)
Residue is to be washed down with plenty of water.

6.4. Reference to other sections

* For personal protection, see section 8.
For the removal of the waste product, see section 13.

7. Handling and storage

7.1. Precautions for safe handling

Handling : AVOID FOG TRANSFORMATION !
Avoid breathing vapour and contact with skin, eyes and clothing. Wear recommended personal protective equipment. (See section 8)

Protection against Fire and Explosion : Eliminate every possible source of ignition (open fire, sparks, smoking, ...).
With a temperature equal to or higher than the flash point, the mixture steam-air may create a highly flammable and explosive mixture.
Use special care to avoid static electric discharges.
Do not use compressed air to either agitate or transfer contents of storage containers (tanks) / shipping drums containing this material.
Always use explosionproof electrical equipment.

7.2. Conditions for safe storage, including any incompatibilities

* Storage : Keep only in the original, safely locked container in a cool, well ventilated and fireproof place.
Store away from all heat sources, including direct sunlight.
All dangerous products should be placed on a drip tray or should be barreled.
Keep away from : Oxidizing agents .

Packaging Material : Aluminium , Galvanised carbon steel , Stainless steel .

Insuitable Packaging Material : Some plastics.

7.3. Specific end use(s)

* For identified uses, see subsection 1.2 and/or exposure scenarios.

8. Exposure controls/personal protection

8.1. Control parameters

* Occupational Exposure Limits : Acetone : Limit value (BE) : 500 ppm (1210 mg/m³) (2009)
Acetone : Short time value (BE) : 1000 ppm (2420 mg/m³) (2009)
Acetone : Limit value (TWA 8 h) (NL) : 510 ppm (1210 mg/m³) (2007)
Acetone : Limit value (TWA 15 min) (NL) : 1020 ppm (2420 mg/m³) (2007)

* Biological limit values : They will be included when available.

* DNELs : • Acetone : Worker, long-term - systemic effects, inhalation : 1210 mg/m³
• Acetone : Worker, acute - local effects, inhalation : 2420 mg/m³
• Acetone : Worker, long-term - systemic effects, dermal : 186 mg/kg bw/ day
• Acetone : General population, long-term - systemic effects, oral : 62 mg/kg bw/ day
• Acetone : General population, long-term - systemic effects, dermal : 62 mg/kg bw/ day
• Acetone : General population, long-term - systemic effects, inhalation : 200 mg/m³

* PNECs : • Acetone : Fresh water : 10,6 mg/l
• Acetone : Marine water : 1,06 mg/l
• Acetone : Intermittent release : 21 mg/l
• Acetone : Fresh water sediment : 30,4 mg/kg
• Acetone : Marine water sediment : 3,04 mg/kg
• Acetone : Soil : 0,112 mg/kg
• Acetone : Sewage treatment plant : 29,5 mg/l

8.2. Exposure controls

Engineering Measures : Ventilate area.

Industrial Hygiene : When using, do not eat, drink or smoke.
Emergency eye wash fountains and showers should be available in the immediate vicinity of any potential exposure.

8. Exposure controls/personal protection (continued)

Personal Protection Equipment

- Respiratory Protection : Ventilation , Local exhaust , Respiratory protection equipment (Filter type AX).
- Skin and Body Protection : Suitable protective clothing .
- Hand Protection : Gloves (Butyl rubber , ...).
- Eye Protection : Closed safety glasses or face shield.

* Environmental exposure controls : See sections 6, 7, 12 en 13.

9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

	Physical State (20°C)	: Liquid .
	Form/Colour	: Clear , Colourless .
	Odour	: Pungent odour .
*	Odour threshold	: 13 - 19,8 ppm
*	pH value	: Neutral.
	Congealing/Melting point	: -95 °C
*	Freezing point	: No data available.
	Boiling Point/Range (1013 hPa)	: 56 °C
	Flash point	: -20 °C
*	Evaporation rate	: 2 (Ether = 1) 5,6 - 14,4 (n-Butyl acetate = 1)
	Fire hazard	: P1
	Explosion limits in air	: 2,1 - 13 vol.%
*	Vapour pressure	: 240 mbar (20°C) 800 mbar (50°C)
	Relative vapour density (air=1)	: 2,0
	Relative density of saturated vapour/air mixture (air=1)	: 1,2
	Relative density (water=1)	: 0,8
	Soluble in	: Alcohol , Chloroform , Ether , Most oils , ...
	Solubility in water	: Complete solubility.
*	Log P Octanol/Water (20°C)	: -0,24
	Auto-ignition temperature	: 464 °C
	Minimum ignition energy	: 1,15 mJ
	Decomposition temperature	: Not applicable.
	Viscosity (20°C)	: 0,33 mPa.s
*	Explosive properties	: Not applicable.
*	Oxidizing properties	: Not applicable.

9.2. Other information

*	Surface tension (20°C)	: 23,7 mN/m
	Specific leading	: 4,9*10E5 pS/m
*	Thermal expansion coefficient	: 0,00143 v/v °C
	% Volatiles (by weight)	: > 99

10. Stability and reactivity

10.1. Reactivity

* See below.

10.2. Chemical stability

Stability : Stable at normal circumstances.

10.3. Possibility of hazardous reactions

* Hazardous reactions : Possible formation of peroxides.

10.4. Conditions to avoid

Conditions to avoid : High temperatures .

10.5. Incompatible materials

Materials to avoid : Oxidizing agents .

10.6. Hazardous decomposition products

Hazardous Decomposition Products : Fire may liberate carbon oxides (CO) and smoke.

11. Toxicological information

11.1. Information on toxicological effects

Acute toxicity

- Inhalation : May cause irritation of respiratory tract.
  High concentrations may produce central nervous system depression and loss of consciousness (slightly narcotical effect).
  Symptoms include: Sore throat , Cough , Dizziness , Drowsiness , Unconsciousness .
  • Acetone : LC50 (Rat, inhalation, 4 h) : 76 mg/l
- Skin contact : May be irritating for the skin.
  Symptoms include: Redness , Pain .
  • Acetone : LD50 (Rabbit, dermal) : > 15000 mg/kg
- Eye contact : Irritating to eyes.
  Symptoms include: Redness , Pain , Tears .
- Ingestion : Symptoms include: Burning feeling , Stomach complaints , Nausea , Vomiting .
  • Acetone : LD50 (Rat, oral) : > 5000 mg/kg
  • Acetone : LD50 (Mouse, oral) : > 3000 mg/kg
  • Acetone : LD50 (Rabbit, oral) : > 5000 mg/kg

Chronic toxicity : Repeated exposure may cause skin dryness or cracking.

* Sensibilization : Not sensitive .

* Carcinogenicity : Not carcinogenic .

* Mutagenicity : Not mutagenic .

* Reproductive toxicity : No evidence of reprotoxic effects .

12. Ecological information

12.1. Toxicity

Ecotoxicity : • Acetone : EC50 (Daphnia magna, 48 h) : > 10000 mg/l
• Acetone : LC50 (Fish, 96 h) : > 5000 mg/l

12.2. Persistence and degradability

Persistence and degradability : • Acetone : Persistence and degradability : Easily

12. Ecological information (continued)

12.3. Bioaccumulative potential

Bioaccumulation : • Acetone : Bioaccumulation : No

12.4. Mobility in soil

Mobility : • Acetone : Mobility : Completely soluble in water

12.5. Results of PBT and vPvB assessment

* Evaluation : • Acetone : PBT/vPvB : No

12.6. Other adverse effects

This product is classified as a Volatile Organic Component according to Directive 1999/13/EC.

WGK class (DE) : 1 (Weak water pollutant)

Water damaging (NL) : 9

Decontamination exertion (NL) : B

13. Disposal considerations

13.1. Waste treatment methods

Waste from residues/Unused products : The product has to be destroyed according to national or local legislation, by a company specialised in handling hazardous waste products.

* European list of waste products : XXXXXX - European waste product code. This code is assigned on the basis of the most current applications and can not be representative for pollutions which are arisen at the effective use of the product. The producer of the waste has to evaluate its process himself and has to grant the appropriate waste coding. See Decision 2001/118/EC.
070104 - Other organic solvents, washing liquids and mother liquors.

Removal contaminated packaging : Packing is to be used exclusively for the packing of this product.
After use, empty and close the packing very carefully.
In case of returned packing, the empty packing can be offered back to the supplier.

14. Transport information

14.1. UN number

UN Number : 1090

14.2. UN proper shipping name

* ADR Name : UN 1090 Acetone, 3, II, (D/E)

* ADN Name : UN 1090 Acetone , 3, II

IMDG Name : UN 1090 Acetone , 3, II, (-20°C)

14.3. Transport hazard classe(s)

Class : 3

14.4. Packing group

Packaging Group : II

14.5. Environmental hazards

* Environmentally hazard : No

Marine pollutant : No

14.6. Special precautions for user

14. Transport information (continued)

Danger number : 33
Hazard Label(s) : 3
EmS-N° : F-E S-D

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

* Type ship : No data available.
* Pollution category : No data available.

15. Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

* Inventories : Australian inventory (AICS): Listed in inventory.
Canadian inventory (DSL): Listed in inventory.
Chinese inventory (IECS): Listed in inventory.
European inventory (EINECS): Listed in inventory.
Japanese inventory (ENCS): Listed in inventory.
Korean inventory (KECI): Listed in inventory.
Philippine inventory (PICCS): Listed in inventory.
Inventory of the United States (TSCA): Listed in inventory.

* NFPA n° : 1-3-0

* Relevant EU Rule(s) : Directive 92/85/EEC of the Council of 19 October 1992 on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding
Directive 96/82/EC of the Council of 9 December 1996 on the control of major-accident hazards involving dangerous substances
Directive 98/24/EC of the Council of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work
Directive 1999/13/EC of the Council of 11 March 1999 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations
Directive 2004/42/CE of the European Parliament and of the Council of 21 April 2004 on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC
Decision 2001/118/EC of the Commission of 16 January 2001 amending Decision 2000/532/EC as regards the list of wastes
Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (Reach)

15.2. Chemical Safety Assessment

* A chemical safety assessment has been carried out for the substance(s) that make up this material or for the material itself.

16. Other information

* This safety data sheet has been drawn up in accordance with Regulation (EU) No 453/2010.
This safety data sheet is exclusively made for industrial/professional use.

* Has changed compared to previous revision.

16. Other information (continued)

	Changes	: General revision .
*	Sources of used key data	: The information contained herein is based on the present state of our knowledge (Producer(s) , Chemical cards , ...). See also on the webaddress: http://apps.echa.europa.eu/registered/registered-sub.aspx#search
	R-phrases	: R11 - Highly flammable. R36 - Irritating to eyes. R66 - Repeated exposure may cause skin dryness or cracking. R67 - Vapours may cause drowsiness and dizziness.
*	(EU)H-statements	: H319 - Causes serious eye irritation. H225 - Highly flammable liquid and vapour. H336 - May cause drowsiness or dizziness. EUH066 - Repeated exposure may cause skin dryness or cracking.
*	List of abbrevations and acronyms	: ADN (Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation interieur) : European agreement concerning the international carriage of dangerous goods by inland waterways ADR (Accord européen relatif au transport international des marchandises Dangereuses par Route) : European agreement concerning the international carriage of dangerous goods by road CO : Carbon monoxide DNEL (Derived No Effect Level) : an estimated safe exposure level EmS (Emergency Schedule) : the first code refers to the relevant fire schedule and the second code refers to the relevant spillage schedule IMDG (International Maritime Dangerous Goods code) NFPA (National Fire Protection Association) or fire diamant PNEC (Predicted No Effect Concentration) : concentration below which exposure to a substance is not expected to cause adverse effects REACH : Registration, Evaluation, Authorisation and restriction of Chemicals WGK (Wassergefahrdungsklasse) : a German classification of substances that indicate the environmental hazard for surface water

This information is to our knowledge correct and complete on the date of issue of this safety data sheet. The information only concerns the product and does not give any guarantee for the quality and the completeness of the properties of the product, or in case of mixing or using in any other process. It remains the responsibility of the user to assure himself that the information is suitable and complete concerning the special use he makes of the product.
BRENNTAG denies all responsibility for loss or damage resulting from the use of these data.

End of document

No.	Short title	Main User Group (SU)	Sector of Use (SU)	Product Category (PC)	Process Category (PROC)	Environmental Release Category (ERC)	Article Category (AC)	Specified
1	Manufacture of substance	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 14, 15	1, 2, 4, 6a	NA	ES7668
2	Distribution of substance	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 14, 15	1, 2, 4, 6a	NA	ES7846
3	Formulation & (re)packing of substances and mixtures	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 14, 15	1, 2, 4, 6a	NA	ES13324
4	Rubber production and processing	3	NA	NA	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 13, 14	6d	NA	ES7680
5	Polymer production	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 13, 14, 15	6d	NA	ES7682
6	Polymer production	22	NA	NA	1, 2, 8a, 8b, 9, 14	8a, 8c, 8d, 8f	NA	ES7741
7	Polymer processing	3	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 13, 14, 15	6d	NA	ES7684
8	Polymer processing	22	NA	NA	1, 2, 8a, 8b, 9, 14	8a, 8c, 8d, 8f	NA	ES7743
9	Uses in coatings	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 15, 19	4	NA	ES7672
10	Uses in coatings	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 10, 11, 13, 15, 19	8a, 8c, 8d, 8f	NA	ES7737
11	Uses in coatings	21	NA	1, 4, 9a, 9b, 9c, 15, 24, 31	NA	8a, 8c, 8d, 8f	NA	ES8830
12	Use in Cleaning Agents	3	NA	NA	1, 2, 3, 4, 5, 7, 8a, 8b, 9, 10, 13, 19	4	NA	ES7686
13	Use in Cleaning Agents	22	NA	NA	1, 2, 3, 4, 5, 8a, 8b, 9, 10, 11,	8a, 8d	NA	ES7745

					13, 19			
14	Use in Cleaning Agents	21	NA	3, 4, 9a, 9b, 9c, 24, 35, 38	NA	8a, 8d	NA	ES8831
15	Use as binders and release agents	3	NA	NA	1, 2, 3, 4, 5, 6, 7, 8a, 8b, 9, 10, 13	5	NA	ES7678
16	Use as binders and release agents	22	NA	NA	1, 2, 3, 4, 5, 6, 8a, 8b, 9, 10, 11	8a, 8b, 8c, 8d, 8e, 8f	NA	ES7739
17	Use in agrochemicals	22	NA	NA	1, 2, 4, 8a, 8b, 11, 13, 19	8a, 8d	NA	ES7749
18	Use in laboratories	3	NA	NA	10, 15, 19	4	NA	ES7670
19	Use in laboratories	22	NA	NA	10, 15, 19	8a	NA	ES7735
20	Use as blowing agents	3	NA	NA	1, 2, 3, 8b, 9, 12	4, 10a	NA	ES7690
21	Use in de-icing and anti-icing applications	22	NA	NA	1, 2, 8b, 11, 19	8d	NA	ES7751

1. Short title of Exposure Scenario 1: Manufacture of substance	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	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 tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent
Environmental Release Categories	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)

2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related	Contain and dispose of waste in accordance with environmental legislation and	

to external treatment of waste for disposal	according to local regulations.
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6, PROC8a, PROC10	---	Inhalation	250ppm	0,50

PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC14, PROC15	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 2: Distribution of substance		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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 tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent	
Environmental Release Categories	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)	
2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related	Contain and dispose of waste in accordance with environmental legislation and	

to external treatment of waste for disposal	according to local regulations.
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6, PROC8a, PROC10	---	Inhalation	250ppm	0,50

PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC14, PROC15	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 3: Formulation & (re)packing of substances and mixtures		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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 tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent	
Environmental Release Categories	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)	
2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	

Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6,	---	Inhalation	250ppm	0,50

PROC8a, PROC10				
PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC14, PROC15	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 4: Rubber production and processing	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	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 tabletting, compression, extrusion, pelettisation
Environmental Release Categories	ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

2.1 Contributing scenario controlling environmental exposure for: ERC6a, ERC6b, ERC6c, ERC6d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related	If recycling is not practicable, dispose of in compliance with local regulations.	

to external recovery of waste		
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC7)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC7)	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6,	---	Inhalation	250ppm	0,50

PROC8a, PROC10, PROC13				
PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC7	with local exhaust ventilation, (95% efficiency)	Inhalation	25ppm	0,05
PROC7	---	Dermal	2,14mg/kg/day	0,01
PROC7	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC7	---	Dermal	42,86mg/kg/day	0,23
PROC7	half mask	Inhalation	50ppm	0,10
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC13	---	Dermal	13,71mg/kg/day	0,074
PROC14	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 5: Polymer production	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	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 tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent
Environmental Release Categories	ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

2.1 Contributing scenario controlling environmental exposure for: ERC6d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related	If recycling is not practicable, dispose of in compliance with local regulations.	

to external recovery of waste		
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6, PROC8a, PROC10, PROC13	---	Inhalation	250ppm	0,50
PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07

PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC13	---	Dermal	13,71mg/kg/day	0,074
PROC14, PROC15	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 6: Polymer production		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure 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) PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation	
Environmental Release Categories	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	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8c, ERC8d, ERC8f		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC8a, PROC8b, PROC9, PROC14		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).

	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC8a)	
	or Avoid carrying out operation for more than 4 hours.(PROC8a)	
	Ensure material transfers are under containment or extract ventilation. or Avoid carrying out operation for more than 4 hours.(PROC14)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC14	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC8a, PROC14	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20
PROC8a	---	Dermal	0,14mg/kg/day	0,001
PROC8a	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC8a	---	Dermal	13,71mg/kg/day	0,07

PROC8a	during 1 - 4 hours	Inhalation	300ppm	0,60
PROC8b, PROC9	---	Inhalation	250ppm	0,50
PROC8b, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC14	during 1 - 4 hours	Inhalation	300ppm	0,002

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 7: Polymer processing	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	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 tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent
Environmental Release Categories	ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers

2.1 Contributing scenario controlling environmental exposure for: ERC6d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related	If recycling is not practicable, dispose of in compliance with local regulations.	

to external recovery of waste		
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC5, PROC6,	---	Inhalation	250ppm	0,50

PROC8a, PROC10, PROC13				
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC13	---	Dermal	13,71mg/kg/day	0,074
PROC14, PROC15	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 8: Polymer processing		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure 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) PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelettisation	
Environmental Release Categories	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	
2.1 Contributing scenario controlling environmental exposure for: ERC8a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC8a, PROC8b, PROC9, PROC14		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).

	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC8a)	
	or Avoid carrying out operation for more than 4 hours.(PROC8a)	
	Ensure material transfers are under containment or extract ventilation. or Avoid carrying out operation for more than 4 hours.(PROC14)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

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Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002

PROC1,
PROC14

PROC8a, PROC14	during 1 - 4 hours	Inhalation	300ppm	0,60
PROC8b, PROC9	---	Inhalation	250ppm	0,50
PROC8b, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC14	---	Dermal	3,43mg/kg/day	0,02

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 9: Uses in coatings	
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites
Process categories	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 PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

2.1 Contributing scenario controlling environmental exposure for: ERC4		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Charcoal adsorbers, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC15, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC7)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC7)	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC8a,	---	Inhalation	250ppm	0,50

PROC10, PROC13, PROC19				
PROC5, PROC8a, PROC13	---	Dermal	13,71mg/kg/day	0,07
PROC7	with local exhaust ventilation, (95% efficiency)	Inhalation	25ppm	0,05
PROC7	---	Dermal	2,14mg/kg/day	0,01
PROC7	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC7	---	Dermal	42,86mg/kg/day	0,23
PROC7	half mask	Inhalation	50ppm	0,10
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC15	---	Dermal	0,34mg/kg/day	0,00
PROC19	with gloves	Dermal	28,29mg/kg/day	0,15

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 10: Uses in coatings	
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process categories	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 PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available
Environmental Release Categories	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

2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8c, ERC6d, ERC8f		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	

Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC5, PROC8a)	
	or Avoid carrying out operation for more than 4 hours.(PROC5, PROC8a)	
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %.(PROC10)	
	or Avoid carrying out operation for more than 4 hours.(PROC10)	
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %. Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 4 hours.(PROC11)	
	or Avoid carrying out operation for more than 1 hour.(PROC11)	
	Avoid carrying out operation for more than 1 hour.(PROC19)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC11)	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Limit the substance content in the mixture to 25 %. Wear suitable gloves tested to EN374.(PROC19)	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3, PROC15	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3	---	Inhalation	100ppm	0,20
PROC4, PROC8b, PROC9, PROC13	---	Inhalation	250ppm	0,50
PROC4, PROC8b, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5	---	Dermal	0,07mg/kg/day	0,00
PROC5, PROC8a	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC5, PROC8a, PROC13	---	Dermal	13,71mg/kg/day	0,07
PROC5, PROC8a	during 1 - 4 hours	Inhalation	300ppm	0,60
PROC8a	---	Dermal	0,14mg/kg/day	0,001
PROC10	---	Dermal	1,37mg/kg/day	0,007
PROC11	with local exhaust ventilation, 80% efficiency	Inhalation	200ppm	0,40
PROC11	---	Dermal	2,14mg/kg/day	0,01
PROC11	during 1 - 4 hours, Concentration of substance in product: 5% - 25%, Outdoor use., 30% efficiency	Inhalation	252ppm	0,50
PROC11	Concentration of	Dermal	64,28mg/kg/day	0,35

	substance in product: 5% - 25%			
PROC11	---	Dermal	107,14mg/kg/day	0,58
PROC19	Concentration of substance in product: 5% - 25%, with gloves	Dermal	16,97mg/kg/day	0,09
PROC5, PROC8a, PROC10	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20
PROC11	half mask	Inhalation	100ppm	0,20
PROC19	Concentration of substance in product: 5% - 25%	Inhalation	300ppm	0,60

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 11: Uses in coatings		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC1: Adhesives, sealants PC4: Anti-freeze and de-icing products PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints PC15: Non-metal-surface treatment products PC24: Lubricants, greases, release products PC31: Polishes and wax blends	
Environmental Release Categories	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	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8c, ERC8d, ERC8f		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling consumer exposure for: PC1: Glues, hobby use		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa

Amount used	Amount used per event	9 g
Frequency and duration of use	Exposure duration	< 4 h
	Frequency of use	< 365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.3 Contributing scenario controlling consumer exposure for: PC1: Glues DIY-use (carpet glue, tile glue, wood parquet glue)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	6390 g
Frequency and duration of use	Exposure duration	6 h
	Frequency of use	1 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 110 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.4 Contributing scenario controlling consumer exposure for: PC1: Glue from spray		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 30%
	Physical Form (at time of use)	spray aerosol
Amount used	Amount used per event	85,05 g
Frequency and duration of use	Exposure duration	4 h
	Frequency of use	6 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm²

Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	

2.5 Contributing scenario controlling consumer exposure for: PC4: Washing car window

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
	Physical Form (at time of	

	use)	
	Vapour pressure	240 hPa
Amount used	Amount used per event	4 g
Frequency and duration of use	Exposure duration	0,25 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 214,4 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.8 Contributing scenario controlling consumer exposure for: PC9a: Waterborne latex wall paint		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1,5%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	2760 g
Frequency and duration of use	Exposure duration	2,2 h
	Frequency of use	4 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.9 Contributing scenario controlling consumer exposure for: PC9a: Solvent rich, high solid, water borne paint, PC15: Solvent rich, high solid, water borne paint		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 27,5%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	744 g
Frequency and duration of use	Exposure duration	2,2 h
	Frequency of use	6 days/year

	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 482,75 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.10 Contributing scenario controlling consumer exposure for: PC9a: Aerosol spray can, PC15: Aerosol spray can		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	spray aerosol
Amount used	Amount used per event	215 g
Frequency and duration of use	Exposure duration	0,33 h
	Frequency of use	2 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 6600 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.11 Contributing scenario controlling consumer exposure for: PC9a: Removers (paint-, glue-, wall paper-, sealant-remover), PC15: Removers (paint-, glue-, wall paper-, sealant remover)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	491 g
Frequency and duration of use	Exposure duration	2 h
	Frequency of use	3 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	

2.12 Contributing scenario controlling consumer exposure for: PC9b: Fillers and putty		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	85 g
Frequency and duration of use	Exposure duration	4 h
	Frequency of use	12 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.13 Contributing scenario controlling consumer exposure for: PC9b: Plasters and floor equalizers		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	13800 g
Frequency and duration of use	Exposure duration	2 h
	Frequency of use	12 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.14 Contributing scenario controlling consumer exposure for: PC9c: Finger paints		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid

	Vapour pressure	240 hPa
Amount used	Amount used per event	1,35 g
Frequency and duration of use	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 254,4 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	Avoid using at a product concentration greater than 5%
2.15 Contributing scenario controlling consumer exposure for: PC24: Sprays		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	spray aerosol
Amount used	Amount used per event	73 g
Frequency and duration of use	Exposure duration	0,17 h
	Frequency of use	6 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.16 Contributing scenario controlling consumer exposure for: PC31: Polishes, spray (furniture, shoes)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	142 g
Frequency and duration of use	Exposure duration	1,23 h

	Frequency of use	29 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 430 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	

3. Exposure estimation and reference to its source

Environment

No information available.

Consumers

No exposure assessment presented for human health.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Risk characterization ratios (RCRs) were calculated by comparing the predicted exposure levels with the corresponding DNELs (derived no effect levels) (RCR = exposure level/DNEL)

1. Short title of Exposure Scenario 12: Use in Cleaning Agents		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,		

PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC7)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC7)	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC8a, PROC10, PROC13,	---	Inhalation	250ppm	0,50

PROC19				
PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC7	with local exhaust ventilation, (95% efficiency)	Inhalation	25ppm	0,05
PROC7	---	Dermal	2,14mg/kg/day	0,01
PROC7	---	Inhalation	350ppm	0,70
PROC7	Outdoor use., 30% efficiency	Dermal	42,86mg/kg/day	0,23
PROC7	half mask	Inhalation	50ppm	0,10
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC13	---	Dermal	13,71mg/kg/day	0,074
PROC19	with gloves	Dermal	28,29mg/kg/day	0,15

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 13: Use in Cleaning Agents

Main User Groups	SU 22: Professional uses: Public domain (administrat

PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC5, PROC8a)	
	or Avoid carrying out operation for more than 4 hours.(PROC5, PROC8a)	
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %.(PROC10)	
	or Avoid carrying out operation for more than 4 hours.(PROC10)	
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %. Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 4 hours.(PROC11)	
	or Avoid carrying out operation for more than 1 hour.(PROC11)	
	Avoid carrying out operation for more than 1 hour.(PROC19)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC11)	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Limit the substance content in the mixture to 25 %. Wear suitable gloves tested to EN374.(PROC19)	

3. Exposure estimation and reference to its source

Environment

SAFETY DATA SHEET

	Concentration of substance in product: 5% - 25%, Outdoor use., 30% efficiency			
PROC11	Concentration of substance in product: 5% - 25%	Dermal	64,28mg/kg/day	0,35
PROC11	---	Dermal	107,14mg/kg/day	0,58
PROC11	---	Inhalation	300ppm	0,60
PROC11	half mask	Inhalation	100ppm	0,20
PROC19	Concentration of substance in product: 5% - 25%, with gloves	Dermal	16,97mg/kg/day	0,09
PROC19	Concentration of substance in product: 5% - 25%	Inhalation	300ppm	0,60

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 14: Use in Cleaning Agents		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC3: Air care products PC4: Anti-freeze and de-icing products PC9a: Coatings and paints, thinners, paint removers PC9b: Fillers, putties, plasters, modelling clay PC9c: Finger paints PC24: Lubricants, greases, release products PC35: Washing and cleaning products (including solvent based products) PC38: Welding and soldering products (with flux coatings or flux cores), flux products	
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems ERC8d: Wide dispersive outdoor use of processing aids in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling consumer exposure for: PC3: Aircare, instant action (aerosol sprays)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	spray aerosol

Amount used	Amount used per event	0,1 g
Frequency and duration of use	Exposure duration	0,25 h
	Frequency of use	365 days/year
	Frequency of use	4 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 6600 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.4 Contributing scenario controlling consumer exposure for: PC3: Aircare, continuous action (solid & liquid)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
	Physical Form (at time of use)	solid
Amount used	Amount used per event	0,48 g
Frequency and duration of use	Exposure duration	8 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,70 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.5 Contributing scenario controlling consumer exposure for: PC4: Washing car window		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers product concentrations up to 1%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	0,5 g
Frequency and duration of use	Exposure duration	0,02 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day

Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.6 Contributing scenario controlling consumer exposure for: PC4: Pouring into radiator		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	2000 g
Frequency and duration of use	Exposure duration	0,17 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.7 Contributing scenario controlling consumer exposure for: PC4: Lock de-icer		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	4 g
Frequency and duration of use	Exposure duration	0,25 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 214,4 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.8 Contributing scenario controlling consumer exposure for: PC9a: Waterborne latex wall paint		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 1,5%
	Physical Form (at time of	liquid

	use)	
	Vapour pressure	240 hPa
Amount used	Amount used per event	2760 g
Frequency and duration of use	Exposure duration	2,2 h
	Frequency of use	4 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.9 Contributing scenario controlling consumer exposure for: PC9a: Solvent rich, high solid, water borne paint		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 27,5%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	744 g
Frequency and duration of use	Exposure duration	2,2 h
	Frequency of use	6 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428,75 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.10 Contributing scenario controlling consumer exposure for: PC9a: Aerosol spray can		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	spray aerosol
Amount used	Amount used per event	215 g
Frequency and duration of use	Exposure duration	0,33 min
	Frequency of use	2 days/year

	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 6600 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.11 Contributing scenario controlling consumer exposure for: PC9a: Removers (paint-, glue-, wall paper-, sealant-remover)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	491 g
Frequency and duration of use	Exposure duration	2 h
	Frequency of use	3 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.12 Contributing scenario controlling consumer exposure for: PC9b: Fillers and putty		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	85 g
Frequency and duration of use	Exposure duration	4 h
	Frequency of use	12 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 35,73 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	

2.13 Contributing scenario controlling consumer exposure for: PC9b: Plasters and floor equalizers		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 2%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	13800 g
Frequency and duration of use	Exposure duration	2 h
	Frequency of use	12 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.14 Contributing scenario controlling consumer exposure for: PC9b: Modelling clay		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers product concentrations up to 1%
	Physical Form (at time of use)	solid
Amount used	Amount used per event	1 g
Frequency and duration of use	Exposure duration	8 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 254,4 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.15 Contributing scenario controlling consumer exposure for: PC9c: Finger paints		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa

Amount used	Amount used per event	1,35 g
Frequency and duration of use	Exposure duration	8 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 254,4 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
Conditions and measures related to protection of consumer (e.g. behavioural advice, personal protection and hygiene)	Consumer Measures	Avoid using at a product concentration greater than 5%
2.16 Contributing scenario controlling consumer exposure for: PC24: Liquids		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 100%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	2200 g
Frequency and duration of use	Exposure duration	0,17 h
	Frequency of use	4 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 468 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.17 Contributing scenario controlling consumer exposure for: PC24: Pastes		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	34 g
Frequency and duration of use	Exposure duration	8 h
	Frequency of use	10 days/year

Frequency of use	1 Times per day

purpose cleaners, sanitary products, floor cleaners, glass cleaners, carpet cleaners, metal cleaners)		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 5 %.
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	27 g
Frequency and duration of use	Exposure duration	0,33 h
	Frequency of use	128 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 857,5 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	
2.21 Contributing scenario controlling consumer exposure for: PC38		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 20%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	12 g
Frequency and duration of use	Exposure duration	1 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 6600 cm²
Other given operational conditions affecting consumers exposure	Room size	20 m3
	Covers use under typical household ventilation., Covers use at ambient temperatures.	

3. Exposure estimation and reference to its source

Environment

No information available.

Consumers

No exposure assessment presented for human health.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Risk characterization ratios (RCRs) were calculated by comparing the predicted exposure levels with the corresponding DNELs (derived no effect levels) (RCR = exposure level/DNEL)

1. Short title of Exposure Scenario 15: Use as binders and release agents		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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	
Environmental Release Categories	ERC5: Industrial use resulting in inclusion into or onto a matrix	
2.1 Contributing scenario controlling environmental exposure for: ERC5		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,		

PROC5, PROC6, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC7)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC7)	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

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Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6, PROC8a	---	Inhalation	250ppm	0,50
PROC5	---	Dermal	13,71mg/kg/day	0,07

PROC6	---	Dermal	27,43mg/kg/day	0,15
PROC7	with local exhaust ventilation, (95% efficiency)	Inhalation	25ppm	0,05
PROC7	---	Dermal	2,14mg/kg/day	0,01
PROC7	---	Inhalation	350ppm	0,70
PROC7	---	Dermal	42,86mg/kg/day	0,23
PROC7	half mask	Inhalation	50ppm	0,10
PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC10	---	Inhalation	250ppm	0,50
PROC10	---	Dermal	27,34mg/kg/day	0,15
PROC13	---	Inhalation	250ppm	0,50
PROC13	---	Dermal	13,71mg/kg/day	0,074

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 16: Use as binders and release agents		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	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 PROC11: Non industrial spraying	
Environmental Release Categories	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	
2.1 Contributing scenario controlling environmental exposure for: ERC8a, ERC8b, ERC8c, ERC8d, ERC8e, ERC8f		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	

disposal		
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC11		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC5, PROC8a)	
	or Avoid carrying out operation for more than 4 hours.(PROC5, PROC8a)	
	Ensure operation is undertaken outdoors. or Avoid carrying out operation for more than 4 hours.(PROC6)	
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %.(PROC10)	
	or Avoid carrying out operation for more than 4 hours.(PROC10)	
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %. Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 4 hours.(PROC11)	
	or Avoid carrying out operation for more than 1 hour.(PROC11)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC11)	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC8b	---	Inhalation	100ppm	0,20
PROC4	---	Inhalation	250ppm	0,50
PROC4	---	Dermal	6,86mg/kg/day	0,04
PROC5	---	Dermal	0,07mg/kg/day	0,00
PROC5, PROC8a	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC5, PROC8a	during 1 - 4 hours	Inhalation	300ppm	0,60
PROC6	Outdoor use., 30% efficiency	Inhalation	420ppm	0,84
PROC6	---	Dermal	27,43mg/kg/day	0,15
PROC6	during 1 - 4 hours	Inhalation	360ppm	0,72
PROC8a	---	Dermal	0,14mg/kg/day	0,001
PROC8a	---	Dermal	13,71mg/kg/day	0,50
PROC8b	---	Inhalation	250ppm	0,50
PROC8b	---	Dermal	6,86mg/kg/day	0,04
PROC9	---	Inhalation	250ppm	0,50
PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC11	half mask	Inhalation	100ppm	0,20
PROC10	---	Dermal	1,37mg/kg/day	0,007
PROC10	during 1 - 4 hours, Concentration of substance in product: 5% - 25%	Inhalation	300ppm	0,60
PROC10	Concentration of	Dermal	16,46mg/kg/day	0,09

	substance in product: 5% - 25%			
PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC11	during 15 mins - 1 hour, with local exhaust ventilation, 80% efficiency	Inhalation	200ppm	0,40
PROC11	---	Dermal	2,14mg/kg/day	0,01
PROC11	during 1 - 4 hours, Concentration of substance in product: 5% - 25%, Outdoor use., 30% efficiency	Inhalation	252ppm	0,50
PROC11	Concentration of substance in product: 5% - 25%	Dermal	64,28mg/kg/day	0,35
PROC11	---	Dermal	107,14mg/kg/day	0,58
PROC5, PROC10	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

Acetone

Version 2.2 Print Date 22.10.2013

Revision date / valid from 22.10.2013

PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC4, PROC8b, PROC13	---	Inhalation	250ppm	0,50
PROC4, PROC8b	---	Dermal	6,86mg/kg/day	0,04
PROC8a	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20
PROC8a	---	Dermal	0,14mg/kg/day	0,001
PROC8a	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC8a, PROC13	---	Dermal	13,71mg/kg/day	0,07
PROC8a	during 1 - 4 hours	Inhalation	300ppm	0,60
PROC11	during 15 mins - 1 hour, with local exhaust ventilation, 80% efficiency	Inhalation	200ppm	0,40
PROC11	---	Dermal	2,14mg/kg/day	0,01
PROC11	during 1 - 4 hours, Concentration of substance in product: 5% - 25%, Outdoor use., 30% efficiency	Inhalation	252ppm	0,50
PROC11	Concentration of substance in product: 5% - 25%	Dermal	64,28mg/kg/day	0,35
PROC11	---	Dermal	107,14mg/kg/day	0,58
PROC11	half mask	Inhalation	100ppm	0,20
PROC19	Concentration of substance in product: 5% - 25%	Dermal	16,97mg/kg/day	0,09
PROC19	Concentration of substance in product: 5% - 25%	Inhalation	300ppm	0,60

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:

ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 18: Use in laboratories		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	PROC10: Roller application or brushing PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC10, PROC15, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
Conditions and measures related	Use suitable eye protection.	

to personal protection, hygiene and health evaluation	Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC10, PROC19	---	Inhalation	250ppm	0,50
PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC15	---	Inhalation	50ppm	0,10
PROC15	---	Dermal	0,34mg/kg/day	0,00
PROC19	with gloves	Dermal	28,29mg/kg/day	0,15

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 19: Use in laboratories		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	PROC10: Roller application or brushing PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available	
Environmental Release Categories	ERC8a: Wide dispersive indoor use of processing aids in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC10, PROC15, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Ensure material transfers are under containment or extract ventilation.	

	or Limit the substance content in the mixture to 25 %.(PROC10)
	or Avoid carrying out operation for more than 4 hours.(PROC10)
	Avoid carrying out operation for more than 1 hour.(PROC19)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
	If above technical/organisational control measures are not feasible, then adopt following PPE: Limit the substance content in the mixture to 25 %. Wear suitable gloves tested to EN374.(PROC19)

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC10	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20
PROC10	---	Dermal	1,37mg/kg/day	0,007
PROC15	---	Inhalation	50ppm	0,10
PROC15	---	Dermal	0,34mg/kg/day	0,002
PROC19	Concentration of substance in product: 5% - 25%	Inhalation	300ppm	0,60
PROC19	Concentration of substance in product: 5% - 25%, with gloves	Dermal	16,97mg/kg/day	0,09

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health

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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 20: Use as blowing agents		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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	
Environmental Release Categories	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	
2.1 Contributing scenario controlling environmental exposure for: ERC4, ERC10a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid

	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC12	---	Inhalation	100ppm	0,20
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC12	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health

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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 21: Use in de-icing and anti-icing applications		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	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	
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Organizational measures to prevent/limit release from the site		
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC8b, PROC11, PROC19		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and	Locate bulk storage outdoors.	

measures to control dispersion from source towards the worker	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.
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2)
	Ensure material transfers are under containment or extract ventilation. or Limit the substance content in the mixture to 25 %. Ensure operation is undertaken outdoors. Avoid carrying out operation for more than 4 hours.(PROC11)
	or Avoid carrying out operation for more than 1 hour.(PROC11)
	Avoid carrying out operation for more than 1 hour.(PROC19)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.
	If above technical/organisational control measures are not feasible, then adopt following PPE: Wear a respirator conforming to EN140 with Type A filter or better.(PROC11)
	If above technical/organisational control measures are not feasible, then adopt following PPE: Limit the substance content in the mixture to 25 %. Wear suitable gloves tested to EN374.(PROC19)

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,10
PROC8b	---	Inhalation	250ppm	0,50
PROC8b	---	Dermal	6,86mg/kg/day	0,04
PROC11	during 15 mins - 1 hour, with local exhaust ventilation, 80% efficiency	Inhalation	200ppm	0,40
PROC11	---	Dermal	2,14mg/kg/day	0,01

PROC11	during 1 - 4 hours, Concentration of substance in product: 5% - 25%, Outdoor use., 30% efficiency	Inhalation	252ppm	0,50
PROC11	Concentration of substance in product: 5% - 25%	Dermal	64,28mg/kg/day	0,35
PROC11	---	Dermal	107,14mg/kg/day	0,58
PROC11	half mask	Inhalation	100ppm	0,20
PROC19	Concentration of substance in product: 5% - 25%	Inhalation	300ppm	0,60
PROC19	Concentration of substance in product: 5% - 25%, with gloves	Dermal	16,97mg/kg/day	0,09

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 22: Use in de-icing and anti-icing applications		
Main User Groups	SU 21: Consumer uses: Private households (= general public = consumers)	
Chemical product category	PC4: Anti-freeze and de-icing products	
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling consumer exposure for: PC4: Washing car window		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 1 %.
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	0,5 g
Frequency and duration of use	Exposure duration	0,02 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 6600 cm²
Other given operational	Room size	34 m3

conditions affecting consumers exposure	Covers use in a one car garage (34 m3) under typical ventilation.	
2.3 Contributing scenario controlling consumer exposure for: PC4: Pouring into radiator		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 10%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	2000 g
Frequency and duration of use	Exposure duration	0,17 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 428 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	
2.4 Contributing scenario controlling consumer exposure for: PC4: Lock de-icer		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers concentrations up to 50%
	Physical Form (at time of use)	liquid
	Vapour pressure	240 hPa
Amount used	Amount used per event	4 g
Frequency and duration of use	Exposure duration	0,25 h
	Frequency of use	365 days/year
	Frequency of use	1 Times per day
Human factors not influenced by risk management	Exposed skin areas	Covers skin contact area up to 214,4 cm²
Other given operational conditions affecting consumers exposure	Room size	34 m3
	Covers use in a one car garage (34 m3) under typical ventilation.	

3. Exposure estimation and reference to its source

Environment

No information available.

Consumers

No exposure assessment presented for human health.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
Predicted exposures are not expected to exceed the DN(M)EL when the Risk Management Measures/Operational Conditions outlined in Section 2 are implemented.
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.
Risk characterization ratios (RCRs) were calculated by comparing the predicted exposure levels with the corresponding DNELs (derived no effect levels) (RCR = exposure level/DNEL)

1. Short title of Exposure Scenario 23: Use in Oil and Gas field drilling and production operations		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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	
Environmental Release Categories	ERC4: Industrial use of processing aids in processes and products, not becoming part of articles	
2.1 Contributing scenario controlling environmental exposure for: ERC4		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid

	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4	---	Dermal	6,86mg/kg/day	0,04
PROC8a	---	Inhalation	250ppm	0,50
PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 24: Use in Oil and Gas field drilling and production operations		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	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	
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid

	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC8a)	
	or Avoid carrying out operation for more than 4 hours.(PROC8a)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3	---	Inhalation	100ppm	0,20
PROC4, PROC8b	---	Inhalation	250ppm	0,50
PROC4, PROC8b	---	Dermal	6,86mg/kg/day	0,04
PROC8a	---	Dermal	0,14mg/kg/day	0,001
PROC8a	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC8a	during 1 - 4 hours	Inhalation	300ppm	0,60
PROC8a	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

1. Short title of Exposure Scenario 25: Explosives manufacture & use		
Main User Groups	SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
Process categories	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	
Environmental Release Categories	ERC8d: Wide dispersive outdoor use of processing aids in open systems	
2.1 Contributing scenario controlling environmental exposure for: ERC8d		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related to external treatment of waste for disposal	Contain and dispose of waste in accordance with environmental legislation and according to local regulations.	
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC3, PROC5, PROC8a, PROC8b		
Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa

Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC3)
	Ensure material transfers are under containment or extract ventilation. or Ensure operation is undertaken outdoors.(PROC5, PROC8a)
	or Avoid carrying out operation for more than 4 hours.(PROC5, PROC8a)
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC3, PROC5	---	Inhalation	100ppm	0,20
PROC5	---	Dermal	0,07mg/kg/day	0,00
PROC5	---	Inhalation	350ppm	0,70
PROC5	---	Dermal	13,71mg/kg/day	0,07
PROC5	---	Inhalation	300ppm	0,60
PROC8a	---	Dermal	0,14mg/kg/day	0,001
PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC8a	with local exhaust ventilation, 80% efficiency	Inhalation	100ppm	0,20
PROC8a	Outdoor use., 30% efficiency	Inhalation	350ppm	0,70
PROC8a	during 1 - 4 hours	Inhalation	300ppm	0,60

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

1. Short title of Exposure Scenario 26: Use as processing aid		
Main User Groups	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites	
Process categories	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 tabletting, compression, extrusion, pelettisation PROC15: Use as laboratory reagent	
Environmental Release Categories	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)	
2.1 Contributing scenario controlling environmental exposure for: ERC1, ERC2, ERC4, ERC6a		
Substance is a unique structure, Readily biodegradable.		
Amount used	To be defined by site	
Frequency and duration of use	Continuous exposure	360 days/year
Other given operational conditions affecting environmental exposure	Indoor/Outdoor use.	
Technical conditions and measures at process level (source) to prevent release Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil Organizational measures to prevent/limit release from the site	Air	Treat air emission to provide a typical removal efficiency of (%): (Efficiency: 90 %)
	Air	Closed system, or, Treated by scrubbers
	Air	or, Charcoal adsorbers
	Common practices vary across sites thus conservative process release estimates used.	
Conditions and measures related	Contain and dispose of waste in accordance with environmental legislation and	

to external treatment of waste for disposal	according to local regulations.
Conditions and measures related to external recovery of waste	If recycling is not practicable, dispose of in compliance with local regulations.

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC5, PROC6, PROC8a, PROC8b, PROC9, PROC10, PROC14, PROC15

Product characteristics	Concentration of the Substance in Mixture/Article	Covers percentage substance in the product up to 100 % (unless stated differently).
	Physical Form (at time of use)	liquid
	Vapour pressure	> 10 kPa
Frequency and duration of use	Covers daily exposures up to 8 hours (unless stated differently).	
Technical conditions and measures to control dispersion from source towards the worker	Locate bulk storage outdoors. 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.	
	Sample via a closed loop or other system to avoid exposure. Handle substance within a closed system.(PROC1, PROC2, PROC3)	
Conditions and measures related to personal protection, hygiene and health evaluation	Use suitable eye protection. Wear chemically resistant gloves (tested to EN374) in combination with 'basic' employee training.	

3. Exposure estimation and reference to its source

Environment

No information available.

Workers

ECETOC TRA

Contributing Scenario	Specific conditions	Exposure routes	Level of Exposure	RCR
PROC1	---	Inhalation	0,01ppm	0,00002
PROC1, PROC3	---	Dermal	0,34mg/kg/day	0,002
PROC2, PROC14, PROC15	---	Inhalation	50ppm	0,10
PROC2	---	Dermal	1,37mg/kg/day	0,01
PROC3, PROC4	---	Inhalation	100ppm	0,20
PROC4, PROC9	---	Dermal	6,86mg/kg/day	0,04
PROC5, PROC6, PROC8a, PROC10	---	Inhalation	250ppm	0,50

PROC5, PROC8a	---	Dermal	13,71mg/kg/day	0,07
PROC6, PROC10	---	Dermal	27,43mg/kg/day	0,15
PROC8b	---	Inhalation	150ppm	0,30
PROC8b	---	Dermal	6,86mg/kg/day	0,037
PROC9	---	Inhalation	200ppm	0,40
PROC14, PROC15	---	Dermal	0,34mg/kg/day	0,00

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Environment
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.
For scaling see ECT Tool:
ECT: http://www.reachcentrum.eu/en/consortiummanagement/consortia-under-reach/phenol-derivatives-reachconsortium/phenol-derivatives-dossiers.aspx
Health
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.
For scaling see: GES Worker Chemical Safety Assessment (CSA) Template (http://cefic.org/templates/shwPublications.asp?HID=750)
Where other Risk Management Measures/Operational Conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

Additional good practice advice beyond the REACH Chemical Safety Assessment

Assumes a good basic standard of occupational hygiene is implemented.

COMPANY INFORMATION DISTRIBUTOR		
name	**BRENNTAG N.V.**	**BRENNTAG Nederland B.V.**
address	Nijverheidslaan 38 8540 Deerlijk	Donker Duyvisweg 44 3316 BM Dordrecht
country	Belgium	The Netherlands
phone number	+32 (0)56 77 69 44	+31 (0)78 65 44 944
fax number	+32 (0)56 77 57 11	+31 (0)78 65 44 919
website	www.brenntag.be	www.brenntag.nl
e-mail	info@brenntag.be	info@brenntag.nl
activities	Distribution and export of chemicals and raw materials	
VAT number	BE0405317567	NL001375945B01
recall procedure available	Yes	
emergency number (24/365)	+32 (0)56 77 69 44	+31 (0)78 6544 944
QUALITY SYSTEMS		
ISO 9001	Yes	Yes
ISO 14001	Yes	Yes
ISO 22000	-	Yes
FSSC 22000	-	Yes
GMP+ -feed	Yes	Yes
OHSAS18001	-	Yes
ESAD	Yes	Yes
other	-	AEO