SAFETY DATA SHEET

EKOPRODUR S0540 POLY

Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Commission Regulation (EU) 2015/830 - Europe

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : EKOPRODUR S0540 POLY

Chemical name : Not available.

EC number : Mixture. Not applicable.

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

For production polyurethane plastics and foams

1.3 Details of the supplier of the safety data sheet

PCC Prodex Sp. z o.o.
ul. Sienkiewicza 4,
56-120 Brzeg Dolny, Polska
E-mail adress: prodex@pcc.eu

1.4 Emergency telephone number

National advisory body/Poison Centre

Telephone number : Not available.

Supplier

Telephone number : Phone: +48 71 794 2555, +48 71 794 2441 (available 24h) or +48 71 794 2690 (fax) at PCC Rokita SA or contact with the nearest branch of the State Fire Service

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H302
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Skin Sens. 1, H317
STOT RE 2, H373 (kidneys) (oral)
Aquatic Chronic 3, H412

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms :

Signal word : Warning

Hazard statements : H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H373 - May cause damage to organs through prolonged or repeated exposure. (kidneys) (oral)
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General : Not applicable.

Prevention : P280 - Wear protective gloves, protective clothing and eye or face protection.
P273 - Avoid release to the environment.
P264 - Wash thoroughly after handling.

Response : P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : Not applicable.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazardous ingredients : Reaction products of phosphoryl trichloride and 2-methyloxirane
Formaldehyde, polymer with nonylphenol, reaction products with diethanolamine and propylene oxide
2,2' -oxybisethanol
2,2-dimethylpropan-1-ol, tribromo derivative

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

3.1 Substance : Not applicable.

3.2 Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
Reaction products of phosphoryl trichloride and 2-methyloxirane	REACH #: 01-2119486772-26 EC: 807-935-0 CAS: 1244733-77-4	≥10 - ≤25	Acute Tox. 4, H302	[1]
1,2-Diaminotoluene, propoxylated	CAS: 1228577-90-9	≥10 - ≤25	Eye Irrit. 2, H319	[1]
Polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base	REACH #: 01-2119972945-20 EC: 614-668-1 CAS: 68610-97-9	≤10	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
2,2-dimethylpropan-1-ol, tribromo derivative	EC: 253-057-0	≤10	Eye Irrit. 2, H319 Aquatic Chronic 3, H412	[1]

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2,2' -oxybisethanol	EC: 203-872-2 CAS: 111-46-6 Index: 603-140-00-6	≤10	Acute Tox. 4, H302 STOT RE 2, H373	[1]
2,2'-iminodiethanol	EC: 203-868-0 CAS: 111-42-2 Index: 603-071-00-1	<2	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Repr. 2, H361 STOT RE 2, H373	[1]
cyclohexyldimethylamine	EC: 202-715-5 CAS: 98-94-2	<1	Flam. Liq. 3, H226 Acute Tox. 3, H301 Acute Tox. 3, H311 Acute Tox. 3, H331 Skin Corr. 1, H314 Eye Dam. 1, H318 Aquatic Chronic 2, H411 **See Section 16 for the full text of the H statements declared above.**	[1]

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard
[2] Substance with a workplace exposure limit
[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
[5] Substance of equivalent concern
[6] Additional disclosure due to company policy

Occupational exposure limits, if available, are listed in Section 8.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention following exposure or if feeling unwell. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

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4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : No known significant effects or critical hazards.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. Use dry chemical, CO_2, alcohol-resistant foam or water spray (fog).

Unsuitable extinguishing media : Avoid heavy hose streams.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides
phosphorus oxides
halogenated compounds
hydrocarbons

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 15 to 25°C (59 to 77°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

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SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

Product/ingredient name	Type	Exposure	Value	Population	Effects
Reaction products of phosphoryl trichloride and 2-methyloxirane	DNEL	Long term Inhalation	8,2 mg/m³	Workers	Systemic
	DNEL	Short term Inhalation	22,6 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	2,91 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	1,45 mg/m³	General population	Systemic
	DNEL	Short term Inhalation	5,6 mg/m³	General population	Systemic
	DNEL	Long term Dermal	1,04 mg/kg bw/day	General population	Systemic
	DNEL	Long term Oral	0,52 mg/kg bw/day	General population	Systemic
	DNEL	Short term Oral	2 mg/kg bw/day	General population	Systemic
1,2-Diaminotoluene, propoxylated	DNEL	Long term Oral	0,33 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	1,2 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	3,9 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	4,2 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	7 mg/kg bw/day	Workers	Systemic
Formaldehyde, polymer with nonylphenol, reaction products with diethanolamine and propylene oxide	DNEL	Long term Oral	0,8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0,8 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	1,4 mg/m³	General population	Systemic
	DNEL	Long term Dermal	1,4 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	4,9 mg/m³	Workers	Systemic
2,2' -oxybisethanol	DNEL	Long term Inhalation	12 mg/m³	General population	Local
	DNEL	Long term Inhalation	12 mg/m³	General population	Systemic
	DNEL	Long term Dermal	53 mg/kg bw/day	General population	Systemic
	DNEL	Long term Inhalation	60 mg/m³	Workers	Local
	DNEL	Long term Inhalation	60 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	106 mg/kg bw/day	Workers	Systemic
2,2-dimethylpropan-1-ol, tribromo derivative	DNEL	Long term Oral	0,05 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0,05 mg/kg bw/day	General population	Systemic

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	DNEL	Long term Dermal	0,1 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0,175 mg/m³	General population	Systemic
	DNEL	Long term Inhalation	0,7 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	40 mg/kg bw/day	Workers	Systemic
2,2'-iminodiethanol	DNEL	Long term Oral	0,06 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0,07 mg/kg bw/day	General population	Systemic
	DNEL	Long term Dermal	0,13 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	0,25 mg/m³	General population	Local
	DNEL	Long term Inhalation	1 mg/m³	Workers	Local
cyclohexyldimethylamine	DNEL	Short term Inhalation	35 mg/m³	Workers	Local
	DNEL	Long term Inhalation	35 mg/m³	Workers	Local

PNECs

Product/ingredient name	Type	Compartment Detail	Value	Method Detail
Reaction products of phosphoryl trichloride and 2-methyloxirane	-	Fresh water	0,32 mg/l	Assessment Factors
	-	Marine water	0,032 mg/l	Assessment Factors
	-	Fresh water sediment	11,5 mg/kg	Equilibrium Partitioning
	-	Marine water sediment	1,15 mg/kg	Equilibrium Partitioning
	-	Sewage Treatment Plant	19,1 mg/l	Assessment Factors
	-	Soil	0,34 mg/kg	Assessment Factors
	-	Secondary Poisoning	11,6 mg/kg	Assessment Factors

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical product, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. Recommended: chemical splash goggles and/or face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
> 8 hours (breakthrough time):
Use gloves made of:
1) butyl rubber at least 0.6 mm thick.
2) neoprene rubber at least 06 mm thick.
3) nitrile latex at least 0.6 mm thick.
< 1 hour (breakthrough time): Use gloves made of:
1) butyl rubber at least 0.4 mm thick.
2) neoprene rubber at least 0.4 mm thick.
3) nitrile latex at least 0.4 mm thick.
Wear suitable gloves tested to EN374.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear suitable protective clothing and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Suitable protective footwear.

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Respiratory protection	:	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: Ensure ventilation is adequate if there is a risk of aerosol formation or vapour build-up. organic vapour (Type A) and particulate filter
Environmental exposure controls	:	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Liquid. [Oily liquid.]
Colour	:	Brown.
Odour	:	Amine-like.
Odour threshold	:	Lack of data.
pH	:	Lack of data. Basic.
Melting point/freezing point	:	Lack of data.
Initial boiling point and boiling range	:	Lack of data.
Flash point	:	Lack of data.
Evaporation rate	:	Lack of data.
Flammability (solid, gas)	:	Lack of data.
Upper/lower flammability or explosive limits	:	Lack of data.
Vapour pressure	:	Lack of data.
Vapour density	:	Lack of data.
Density	:	1,17± 0.02 g/cm³ [20°C]
Relative density	:	Lack of data.
Solubility(ies)	:	Lack of data.
Solubility in water at room temperature (g/l)	:	Lack of data.
Partition coefficient: n-octanol/ water	:	Lack of data.
Auto-ignition temperature	:	Lack of data.
Decomposition temperature	:	Lack of data.
Viscosity	:	410 ± 100 mPas [20°C]
Explosive properties	:	Lack of data.
Oxidising properties	:	No results available.
Additional information	:	Lack of data.

9.2 Other information

No additional information.

Nota: Integers (i.e. 3 or 7) should be read as decimals (3.0 or 7.0)

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Under normal conditions of storage and use, hazardous reactions will not occur.
10.2 Chemical stability	:	The product is stable under normal storage conditions.
10.3 Possibility of hazardous reactions	:	Container explosion may occur under fire conditions or when heated.

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10.4 Conditions to avoid : Protect from sunlight. Store in a well-ventilated place. Do not store below 15°C or above 25°C.

10.5 Incompatible materials : Isocyanate.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction products of phosphoryl trichloride and 2-methyloxirane	LC50 Inhalation Dusts and mists	Rat - Male, Female	>4,6 mg/l	4 hours
	LC50 Inhalation Dusts and mists	Rat - Male, Female	>7 mg/l	4 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	632 mg/kg	-
	LD50 Oral	Rat - Male	<2000 mg/kg	-
	NOAEL Oral	Rat	200 mg/kg	-
Formaldehyde, polymer with nonylphenol, reaction products with diethanolamine and propylene oxide	LD50 Oral	Rat	2120 mg/kg	-
2,2' -oxybisethanol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
2,2-dimethylpropan-1-ol, tribromo derivative	LD50 Oral	Rat	1630 mg/kg	-
cyclohexyldimethylamine	LD50 Dermal	Rat	370 mg/kg	-
	LD50 Oral	Rat	348 mg/kg	-

Conclusion/Summary : No known significant effects or critical hazards.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Reaction products of phosphoryl trichloride and 2-methyloxirane	632	N/A	N/A	N/A	N/A
2,2' -oxybisethanol	500	11890	N/A	N/A	N/A
2,2'-iminodiethanol	500	N/A	N/A	N/A	N/A
cyclohexyldimethylamine	100	370	N/A	3	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Reaction products of phosphoryl trichloride and 2-methyloxirane	Skin - Oedema	Rabbit	0	-	72 hours
	Skin - Erythema/Eschar	Rabbit	0,3	-	72 hours
	Eyes - Cornea opacity	Rabbit	0	-	72 hours
2,2' -oxybisethanol	Eyes - Mild irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Human	-	72 hours 112 mg I	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
2,2-dimethylpropan-1-ol, tribromo derivative	Eyes - Mild irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
2,2'-iminodiethanol	Eyes - Severe irritant	Rabbit	-	24 hours 750 Micrograms	-
	Eyes - Severe irritant	Rabbit	-	5500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500	-

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	Skin - Mild irritant	Rabbit	-	milligrams 50 milligrams	-

Conclusion/Summary : Not available.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
Reaction products of phosphoryl trichloride and 2-methyloxirane	skin	Mouse	Not sensitizing

Conclusion/Summary : Not available.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Reaction products of phosphoryl trichloride and 2-methyloxirane	OECD TG 476	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD TG 471, 472	Experiment: In vitro Subject: Bacteria	Negative
	OECD TG 482	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD TG 474	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative
	NTP	Experiment: In vivo Subject: Mammalian-Animal Cell: Somatic	Negative
	OECD TG 486	Experiment: In vivo Subject: Mammalian-Animal	Equivocal

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Developmental toxin	Species	Dose	Exposure
Reaction products of phosphoryl trichloride and 2-methyloxirane	-	Negative	-	Rat	Oral	-
	-	-	Negative	Rabbit	Oral	-

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2,2' -oxybisethanol	Category 2	-	-
2,2'-iminodiethanol	Category 2	-	-

Aspiration hazard

Not available.

Potential acute health effects

Inhalation : No known significant effects or critical hazards.

Ingestion : Harmful if swallowed.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : No specific data.

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Skin contact : Adverse symptoms may include the following:
irritation
redness

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
Reaction products of phosphoryl trichloride and 2-methyloxirane	Sub-chronic LOAEL Oral	Rat	52 mg/kg	13 weeks
	Sub-chronic LOAEL Oral	Rat - Female	99 mg/kg	-
	Sub-chronic NOAEL Oral	Rat - Male	85 mg/kg	-

General : May cause damage to organs through prolonged or repeated exposure if swallowed. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Reaction products of phosphoryl trichloride and 2-methyloxirane	EC10 191 mg/l	Micro-organism	3 hours
	EC50 82 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours
	EC50 784 mg/l	Micro-organism	3 hours
	NOEC 13 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours
	Acute EC50 131 mg/l	Daphnia - Daphnia magna	48 hours
	Acute LC50 51 mg/l	Fish - Pimephales proelas	96 hours
	Chronic NOEC 32 mg/l	Daphnia - Daphnia magna	21 days
2,2' -oxybisethanol	Acute LC50 75200000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
2,2'-iminodiethanol	Acute EC50 12 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	96 hours
	Acute LC50 28800 µg/l Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 2150 µg/l Fresh water	Daphnia - Daphnia pulex	48 hours
	Acute LC50 775 mg/l Fresh water	Fish - Lepomis macrochirus	96 hours

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Reaction products of phosphoryl trichloride and 2-methyloxirane	OECD TG 302 A	95 % - Inherent - 64 days	-	-
	OECD TG 301 E	14 % - Not readily - 28 days	-	-

Conclusion/Summary : Not available.

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Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reaction products of phosphoryl trichloride and 2-methyloxirane	Fresh water >365 days, pH 4, 50°C Fresh water >365 days, pH 7, 50°C Fresh water >365 days, pH 9, 50°C	50%; 0.358 day(s)	Inherent

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Reaction products of phosphoryl trichloride and 2-methyloxirane	2,68	0.8 to 14	low
1,2-Diaminotoluene, propoxylated	0.46 to 2.71	-	low
2,2' -oxybisethanol	-1,98	100	low
2,2-dimethylpropan-1-ol, tribromo derivative	2,6	-	low
2,2'-iminodiethanol	-1,43	-	low
cyclohexyldimethylamine	2,01	35,66	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional or local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
16 03 05*	organic wastes containing hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Type of packaging	European waste catalogue (EWC)	
Barrel	15 01 10*	packaging containing residues of or contaminated by hazardous substances
Intermediate Bulk Container (IBC)	15 01 10*	packaging containing residues of or contaminated by hazardous substances

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

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SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	Not applicable.	Not applicable.	Not applicable.
14.2 UN proper shipping name	Not applicable.	Not applicable.	Not applicable.
14.3 Transport hazard class(es)	Not controlled under European ADR.	Not controlled under IMDG.	Not controlled under IATA.
14.4 Packing group	-	-	-
14.5 Environmental hazards	No.	No.	No.

Additional information

ADN : Not applicable.

International transport regulations

This product is not regulated for carriage according to ADR/RID, ADN, IMDG, ICAO/IATA.

SECTION 15: Regulatory information

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

REGULATION (EC) NO 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency

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

The European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) constituting Appendix C to the Convention concerning International Carriage by Rail (COTIF)

International Maritime Dangerous Goods Code (IMDG CODE)

IATA /International Air Transport Association/ Dangerous Goods Regulations (IATA DGR)

Ordinance of the Minister of Labour and Social Policy of 12 June 2018 concerning maximum permissible concentrations and intensities of agents harmful to health in a work environment (Journal of Laws 2018 item 1286).

Act on Waste of 14 December 2012 (Dz. U. /Journal of Laws/ of 2013, No. 0, item 21)

Act on Packaging and Packaging Waste Management of 13 June 2013 (Dz. U. /Journal of Laws/ of 2013, No. 0, item 888)

Act on Chemical Substances and Their Mixtures of 25 February 2011 (Dz. U. /Journal of Laws/ No. 63, item 322)

Regulation of the Minister of Labour and Social Policy on the general occupational health and safety regulations of 26 September 1997 (Dz. U. /Journal of Laws/ of 2003, No. 169, item 1650 as amended)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

Europe inventory : Not determined.

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Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is not controlled under the Seveso Directive.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	:	Not determined.
Canada	:	Not determined.
China	:	Not determined.
Europe	:	Not determined.
Japan	:	**Japan inventory (ENCS)**: Not determined. **Japan inventory (ISHL)**: Not determined.
New Zealand	:	Not determined.
Philippines	:	Not determined.
Republic of Korea	:	Not determined.
Taiwan	:	Not determined.
Thailand	:	Not determined.
Turkey	:	Not determined.
United States	:	Not determined.
Viet Nam	:	Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Changes to the Safety Data Sheet	:	2.1 Classification and labeling according to Regulation (EC) 1272/2008 (CLP) 3 Composition/information on ingredients 8.2 Exposure controls 9 Physical and chemical properties 10 Stability and reactivity
Training advice	:	Ensure operatives are trained to minimise exposures.
Abbreviations and acronyms	:	ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor CAS = Chemical Abstracts Service CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

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CMR = Carcinogen, Mutagen or Reproductive toxicant
CSA = Chemical Safety Assessment
CSR = Chemical Safety Report
DNEL = Derived No Effect Level
EC number = EINECS or ELINCS number
EC50 = Half maximal effective concentration
ES = Exposure Scenario
EUH statement = CLP-specific Hazard statement
EWC = European Waste Catalogue
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
H statement = CLP/GHS Hazard statement
IATA = International Air Transport Association
IC50 = Half maximal inhibitory concentration
IMDG = International Maritime Dangerous Goods
LC50 = Median lethal concentration
LD50 = Median lethal dose
LogPow = logarithm of the octanol/water partition coefficient
MARPOL= International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
OECD = Organisation for Economic Co-operation and Development
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation [Regulation (EC) No. 1907/2006]
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
RRN = REACH Registration Number
STOT = Specific Target Organ Toxicity
SVHC = Substances of Very High Concern
VOC = Volatile Organic Compound
vPvB = Very Persistent and Very Bioaccumulative

Key literature references and sources for data : - Manufacturer's Material Safety Data Sheet.

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 4, H302	Expert judgment
Skin Irrit. 2, H315	Expert judgment
Eye Irrit. 2, H319	Expert judgment
Skin Sens. 1, H317	Expert judgment
STOT RE 2, H373 (kidneys) (oral)	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of abbreviated H statements

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H331	Toxic if inhaled.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

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Acute Tox. 3	ACUTE TOXICITY - Category 3
Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Repr. 2	REPRODUCTIVE TOXICITY - Category 2
Skin Corr. 1	SKIN CORROSION/IRRITATION - Category 1
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT RE 2	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

Notice to reader

The information contained herein is accurate to the latest knowledge and describes the product from the point of view of help and environmental protection as well as safe handling. The information presented in this SDS refers to the technical product only and will not apply to any processed product. Final determination of the suitability of any materials for the chosen application(s) is the sole responsibility of the user"

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