SAFETY DATA SHEET

EKOPRODUR S0329 POLY

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

Date of issue : 2010-10-01

Date of revision : 2020-03-03

Version : 11

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

1.1 Product identifier

Product name : EKOPRODUR S0329 POLY

Chemical name : Mixture.

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 Center

Telephone number : Not available.

Supplier

Telephone number : Telephone: (48) 717 942 555, 717 942 441 (available 24h) at PCC Rokita SA or to the nearest local 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
Skin Sens. 1, H317
Eye Dam. 1, H318
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 : Danger

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Hazard statements : H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H318 - Causes serious eye damage.
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.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.

Response : P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
P330 - Rinse mouth.
P362 - Take off contaminated clothing.
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P332 + P313 - If skin irritation occurs: Get medical advice/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.

Storage : Not applicable.

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

Hazardous ingredients : Reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.
2,2'-iminodiethanol
1,2-Diaminotoluene, propoxylated

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 mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	EC: 911-815-4 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]
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	CAS: 68610-97-9	≥10 - ≤25	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Skin Sens. 1, H317 Aquatic Chronic 2, H411	[1]
2,2'-iminodiethanol	EC: 203-868-0 CAS: 111-42-2 Index: 603-071-00-1	≤3	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318	[1]

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56-120 Brzeg Dolny
Polska
www.pcc-prodex.eu

			STOT RE 2, H373 Aquatic Chronic 2, H411 **See Section 16 for the full text of the H statements declared above.**	

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 : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. 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 : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. 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. Chemical burns must be treated promptly by a 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. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : No known significant effects or critical hazards.

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

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ul. Sienkiewicza 4
56-120 Brzeg Dolny
Polska
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Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

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

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

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

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.

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 spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized 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".

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56-120 Brzeg Dolny
Polska
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6.2 Environmental precautions : Avoid dispersal of spilled 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 materials 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 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 spilled 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 vapor or mist. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. 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 (41 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. Store locked up. 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 unlabeled 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.

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.

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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 mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis (2-chloropropyl) ester	DNEL	Long term Inhalation	5,82 mg/m³	Workers	Systemic
	DNEL	Long term Oral	1,04 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Dermal	2,08 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Inhalation	22,4 mg/m³	Workers	Systemic
	DNEL	Short term Dermal	8 mg/kg bw/day	Workers	Systemic
	DNEL	Short term Dermal	4 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Short term Inhalation	11,2 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Dermal	1,04 mg/kg bw/day	General population [Consumers]	Systemic
	DNEL	Long term Inhalation	1,46 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Oral	0,52 mg/kg bw/day	General population [Consumers]	Systemic
1,2-Diaminotoluene, propoxylated	DNEL	Long term Inhalation	3,9 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	7 mg/kg	Workers	Systemic
	DNEL	Long term Dermal	1,2 mg/m³	General population [Consumers]	Systemic
	DNEL	Long term Dermal	4,2 mg/kg	General population [Consumers]	Systemic
	DNEL	Long term Oral	0,33 mg/kg	General population [Consumers]	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

PNECs

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56-120 Brzeg Dolny
Polska
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Product/ingredient name	Type	Compartment Detail	Value	Method Detail
Reaction mass of tris(2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis (2-chloropropyl) ester	PNEC	Sewage Treatment Plant	7,84 mg/l	-
	PNEC	Marine water sediment	1,34 mg/kg dwt	-
	PNEC	Secondary Poisoning	<11,6 mg/kg	-
	PNEC	Soil	1,7 mg/kg dwt	-
	PNEC	Fresh water sediment	13,4 mg/kg	-
1,2-Diaminotoluene, propoxylated	-	Fresh water	0,05 mg/l	Assessment Factors
	-	Marine water	0,005 mg/l	Assessment Factors
	-	Sewage Treatment Plant	180 mg/l	Assessment Factors
	-	Fresh water sediment	0,147 mg/kg	Equilibrium Partitioning
	-	Marine water sediment	0,0147 mg/kg dwt	Equilibrium Partitioning
	-	Soil	0,0226 mg/kg dwt	Equilibrium Partitioning

8.2 Exposure controls

Appropriate engineering controls : If user operations generate dust, fumes, gas, vapor 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 and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead. Recommended: Goggles, face shield or other full-face protection should be worn if there is a risk of direct exposure to aerosols or splashes or when material is handled hot. tight glasses protecting against splashes of chemicals.

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. Remember that a breakthrough time for a material that the gloves are made of may be different for different manufacturers.
Wear protective gloves: Wear suitable gloves tested to EN374.
Recommended In case of a short-term direct exposure: nitrile rubber/nitrile latex > 0,4 mm thick, of minimum time of penetration 30 min should be used. In case of a long-term direct exposure,natural rubber (latex) gloves 0,6 mm thick, of minimum time of penetration 480 min should be used.

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.
lab coat

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.

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: organic vapor (Type A) and particulate filter Ensure ventilation is adequate if there is a risk of aerosol formation or vapor build-up. Avoid inhalation of vapor, spray or mist.

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.

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ul. Sienkiewicza 4
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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	:	Liquid. [Oily liquid.]
Color	:	Dark. Brown.
Odor	:	Amine.
Odor threshold	:	Not available.
pH	:	Lack of data. Basic.
Melting point/freezing point	:	Lack of data.
Initial boiling point and boiling range	:	>50°C
Flash point	:	OC>100°C Product does not sustain combustion.
Evaporation rate	:	Not applicable.
Flammability (solid, gas)	:	Lack of data.
Upper/lower flammability or explosive limits	:	Not applicable.
Vapor pressure	:	Lack of data.
Vapor density	:	Lack of data.
Density	:	1,15± 0.02 g/cm³ [20°C]
Relative density	:	Lack of data.
Solubility(ies)	:	Lack of data.
Solubility in water at room temperature (g/l)	:	Not applicable.
Partition coefficient: n-octanol/ water	:	Not available.
Auto-ignition temperature	:	Lack of data.
Decomposition temperature	:	Lack of data.
Viscosity	:	355± 50 mPas in 20 °C
Explosive properties	:	Not applicable.
Oxidizing properties	:	No results available.
Additional information	:	Lack of data.

9.2 Other information

No additional information.

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

SECTION 10: Stability and reactivity

10.1 Reactivity	:	Not considered to be reactive.
10.2 Chemical stability	:	The product is stable under normal storage conditions. Store below 40°C.
10.3 Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	:	Do not store above the following temperature: 30 °C Protect from sunlight.
10.5 Incompatible materials	:	Isocyanates - in case of uncontrolled contact reacts like alcohols.

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10.6 Hazardous decomposition products : Carbon monoxide.
Carbon dioxide.
Oxides of nitrogen.
Hydrogen chloride (HCl).
Hydrogen fluoride (HF).
Phosphorus compounds.
Hydrogen cyanide (HCN).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis (2-chloropropyl) ester	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	1500 mg/kg	-
	LD50 Oral	Rat - Male, Female	2000 mg/kg	-
1,2-Diaminotoluene, propoxylated	LD50 Dermal	Rat - Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	>2500 mg/kg	-
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	2120 mg/kg	-

Conclusion/Summary : May be harmful if swallowed. May cause allergic reactions in certain individuals. No known significant effects or critical hazards.

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Mixture.	500	N/A	N/A	N/A	N/A
Reaction mass of tris(2-chloropropyl) phosphate and tris (2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis (2-chloropropyl) ester	1500	N/A	N/A	N/A	N/A
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	2120	N/A	N/A	N/A	N/A
2,2'-iminodiethanol	500	N/A	N/A	N/A	N/A

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
1,2-Diaminotoluene, propoxylated	Eyes - Irritant	Rabbit	-	24 hours 0.1 ml / 100%	72 hours
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	Skin - Irritant	Rabbit	-	72 hours 0.5 mL	72 hours
	Eyes - Irritant	Rabbit	-	72 hours 0.1 mL	7 days
2,2'-iminodiethanol	Eyes - Severe irritant	Rabbit	-	24 hours 750	-

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				Micrograms	
	Eyes - Severe irritant	Rabbit	-	5500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	50 milligrams	-

Conclusion/Summary

Skin : Slightly irritating to the skin. No known significant effects or critical hazards.

Eyes : May have slightly irritating effect. No known significant effects or critical hazards.

Respiratory : May cause respiratory irritation. No known significant effects or critical hazards.

Sensitization

Product/ingredient name	Route of exposure	Species	Result
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	skin	Mouse	Not sensitizing
1,2-Diaminotoluene, propoxylated	skin	Guinea pig	Not sensitizing
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	skin	Mouse	Sensitizing

Conclusion/Summary

Skin : May cause allergic reactions in certain individuals.

Respiratory : May cause allergy or asthma symptoms or breathing difficulties if inhaled. No known significant effects or critical hazards.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	OECD 476 *In vitro* Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Positive
	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 482 Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells *in vitro*	Experiment: In vitro Subject: Mammalian-Animal	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Experiment: In vivo Subject: Mammalian-Animal	Negative
	-	Experiment: In vivo Subject: Mammalian-Animal	Negative
	OECD 486 Unscheduled DNA Synthesis (UDS) Test with Mammalian Liver Cells *in vivo*	Experiment: In vivo Subject: Mammalian-Animal	Equivocal
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 476 In vitro Mammalian Cell Gene Mutation Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

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

Carcinogenicity

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

Reproductive toxicity

Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	-	Negative	Negative	Rat	Oral: 100 to 1000 mg/kg	10 weeks
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	-	-	-	Rat - Male, Female	Oral: 500 mg/kg NOAEL	-
	-	-	-	Rat	Oral: 250 mg/kg NOAEL	-

Conclusion/Summary : No evidence of risk to humans.

Teratogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	Negative - Oral	Rat	5,7 to 571 mg/kg	20 days

Conclusion/Summary : No teratogenic effect.

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'-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 damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
blistering may occur

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

Delayed and immediate effects and also 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 mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	Sub-chronic NOAEL Oral	Rat - Male, Female	171 mg/kg	13 weeks
	Sub-acute NOAEL Oral	Rat - Male, Female	100 mg/kg	28 days

General : 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 mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	EC50 82 mg/l	Algae - Pseudokirchnerella subcapitata	72 hours
	EC50 131 mg/l	Daphnia	48 hours
	EC50 784 mg/l	Micro-organism	3 hours
	LC50 51 mg/l	Fish - Pimephales promelas	96 hours
	NOEC 82 mg/l	Algae - Pseudokirchnerella subcapitata	-
1,2-Diaminotoluene, propoxylated	NOEC 100 mg/l	Aquatic plants - Desmodesmus subspicatus	72 hours
	Acute LC50 >100 mg/l	Fish - Danio rerio	96 hours
	Chronic NOEC ≥10 mg/l	Daphnia - Daphnia magna	21 days
A polypropoxylated p-nonylphenol-formaldehyde-diethanolamine Mannich base.	EC10 3,5 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	EC10 31,4 mg/l Fresh water	Aquatic plants	3 hours
	EC50 5,6 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	72 hours
	LC50 8,8 mg/l Fresh water	Fish - Brachydanio rerio	96 hours
	Acute EC50 6,5 mg/l Fresh water	Daphnia - Daphnia magna	48 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 -	48 hours

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		Neonate	
	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 mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	EU C.4 - D	14 % - Not readily - 28 days	-	-
1,2-Diaminotoluene, propoxylated	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	26 % - Inherent - 28 days	100 mg/l DOC	Activated sludge
	OECD 301F Ready Biodegradability - Manometric Respirometry Test	23 % - Not readily - 28 days	2,1 gO_2/g COD	30 mg/l Activated sludge

Conclusion/Summary : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	Fresh water >365 days, 50°C	-	Not readily
1,2-Diaminotoluene, propoxylated	-	-	Not readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Reaction mass of tris (2-chloropropyl) phosphate and tris(2-chloro-1-methylethyl) phosphate and Phosphoric acid, bis(2-chloro-1-methylethyl) 2-chloropropyl ester and Phosphoric acid, 2-chloro-1-methylethyl bis(2-chloropropyl) ester	2,68	0.8 to 14	low
1,2-Diaminotoluene, propoxylated	0.46 to 2.71	-	low
2,2'-iminodiethanol	-1,43	-	low

12.4 Mobility in soil

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

Mobility : Not available.

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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 minimized 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
17 06 03* 16 03 05*	other insulation materials consisting of or containing hazardous substances organic wastes containing hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimized 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

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.

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56-120 Brzeg Dolny
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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 authorization

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.

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

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ul. Sienkiewicza 4
56-120 Brzeg Dolny
Polska
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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 : Trade name
1.4 Emergency telephone number (with hours of operation)
2.2 Label elements
8.2 - CORROSIVE TO DERMAL TISSUE
9.1 Physical and chemical properties
13.1 Waste treatment methods

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]
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

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56-120 Brzeg Dolny
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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
Skin Sens. 1, H317	Expert judgment
Eye Dam. 1, H318	Expert judgment
Aquatic Chronic 3, H412	Expert judgment

Full text of abbreviated H statements

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
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]

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Chronic 2	AQUATIC HAZARD (LONG-TERM) - Category 2
Aquatic Chronic 3	AQUATIC HAZARD (LONG-TERM) - Category 3
Eye Dam. 1	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - 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"

PCC PRODEX Sp. z o.o.
ul. Sienkiewicza 4
56-120 Brzeg Dolny
Polska
www.pcc-prodex.eu