

SAFETY DATA SHEET



Substance Name: **PHthalic ANHYDRIDE**

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Complying with 1907/2006/EEC Regulation of 16 December 2006 ("REACH Regulation") and REGULATION(EC) No 1272/2006(CLP)

Section 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/ UNDERTAKING

1.1 Product identifier

Substance Name: PHthalic ANHYDRIDE

Trade name: PHthalic ANHYDRIDE

Synonyms: 2-Benzofuran-1,3,-dione, Phthalic acid anhydride, 1,2-Benzene-dicarboxylic acid anhydride, Phthalandione.

Chemical formula: C₈H₄O₃

Product type: Anhydride of organic aromatic dicarboxylic acid.

CAS number: 66-44 9

EC number: 201.607-S

REACH registrationno(s): 01-2119467017-41-0021

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

Intended Uses: Phthalic anhydride is used as an intermediate and as a monomer for polymer formation.

Identified Uses:

Production of Substance

Use as an Intermediate

Use as a Monomer for Polymer Formation.

Use in Formulation, Mixture, Refilling and Loading.

Use as a Laboratory Chemical.

Uses advised against: This product is not recommended for any industrial, professional or consumer use other than the Identified Uses above. There is no consumer use of Phthalic anhydride.

1.3 Details of the supplier of the safety data sheet

Company/undertaking identification

Supplier/Manufacturer: Everchem Specialty Chemicals
1400 N. Providence Road
Media, PA 19063, USA
Tel: (484) 234-5030
Fax: (484) 234-5037
www.everchem.com

E-mail address of person responsible for this SDS: gamiram@orl.co.il

1.4 Emergency telephone number

For Chemical Emergency - Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC Day or Night USA + Canada = 1-800-424-9300 / 703-527-3887

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Section 2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

According to EC Directive 2001/59/EC Most important Hazards:

Classification in accordance to Regulation (EC) No. 1272/2008 (CLP/GHS)

Physical / Chemical Hazards:

Not Classified

Health Hazards:

Acute toxicity - Oral, Category 4

Eye damage, Category 1

Respiratory sensitization, Category 1

Skin sensitization, Category 1

Skin irritation, Category 2

Specific target organ toxicity - inhalation, Category 3

Environmental Hazards:

Not Classified

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



Xn-Harmful

R22: harmful if swallowed

R37/38: irritating to respiratory system and skin

R41: risk of serious damage to eyes

R42/43: may cause sensitization by inhalation and skin contact

2.2 Label elements

Labeling in accordance with Regulation 1272/2008 (CLP)

Hazard pictograms:



Signal word: **Danger**

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Hazard statements:

H302: Harmful if swallowed.

H335: May cause respiratory irritation.

H315: Causes skin irritation.

H318: Causes serious eye damage.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317: May cause an allergic skin reaction.

Precautionary Statements:

P232: Protect product from moisture

P261: Avoid breathing dust.

P264: Wash hands thoroughly after handling.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312: IF SWALLOWED: call a POISON CENTER or doctor / physician if you feel unwell.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

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 eyes irritation occurs: Get medical advice/attention.

P402+P233: Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards

N/A

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS**Substance/preparation****Formula:** C₈H₄O₃**Molecular weight:** 148.12 g/mol

ingredient name	CAS number	EC number	o/o	EU Classification	GHS Classification
PHthalic ANHYDRIDE	8544-9	201-607-5	z 99.8%	Xn; R22 Xi; R41 Xi; R37/38	Acute Tox. 4 H302 Eye damage 1 H318 Skin Irrit. 2 H315 STOT SE 3 H335 Resp. Sens. 1 H334 Skin Sens. 1 H317
REACH registration no. 01-2119457017-41-0021				R42/43	

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.

Occupational exposure limits, if available, are listed in section 6

See section 16 for the full text of the H-statements and R-phrases declared above.

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Section 4. FIRST AID MEASURES

4.1 Product-specific hazards

Causes eye damage. Causes skin irritation / sensitization. May cause respiratory sensitization.

4.2 General advice

Take care to self-protect by avoiding becoming contaminated.

Seek medical assistance - show the safety data sheet or label if possible.

4.3 Description of first aid measures

Inhalation:

Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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. 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 the event of any complaints or symptoms, avoid further exposure.

Ingestion:

Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. 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. 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.

Skin contact:

Solid Material: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. 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.

Material in Liquid State: Wash skin immediately with plenty of water and soap. Call a physician. **CONTACT WITH THE HOT MELT:** Cooling immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. In order to obtain medical care for possible burns and for a smooth cleansing of the skin, seek medical advice immediately.

Eye contact:

Solid Material: Get medical attention immediately. 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.

Material in Liquid State: Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

4.4 Advice to physician

Causes eye damage. Causes skin irritation / sensitization. Material may cause respiratory sensitization.

No specific antidote; medical staff contacts Poisons Information Center. All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

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Section 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media:

Use an extinguishing agent suitable for the surrounding fire. Examples: water spray, water fog or foam. For small fire use dry powder or carbon dioxide (CO₂) extinguisher, dry sand or fire fighting foam.

Unsuitable extinguishing media:

None are known.

5.2 Hazardous combustion products

Decomposition products may include the following materials: carbon oxides (carbon monoxide and carbon dioxide), smoke and soot.

5.3 Special exposure hazards during fire fighting

No specific fire or explosion hazard.

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.

5.4 Special protective measures for firefighters

Fire-fighters should wear appropriate protective equipment and self contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Other: All combustion residues and contaminated water from fire-fighting should be disposed of according to local regulations.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1 Prevention of secondary risk

None.

6.2 Personal precautions

No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Provide adequate ventilation. Put on appropriate personal protective equipment (see section 8).

6.3 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).
Large spill: Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

Small spill: Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

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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

7.1 Advice on safe headline

Prevention of user exposure:

Put on appropriate personal protective equipment.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease 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 ingest.

Use only with adequate ventilation.

Wear appropriate respirator when ventilation is inadequate.

Prevention of fire and explosion:

Avoid contact with heat and ignition sources and with strong oxidizing agents.

Precautions while moving the product:

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.

Hygiene Measures:

Workers should wash hands and face before eating, drinking and smoking.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures:

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.

Use appropriate containment to avoid environmental contamination.

Storage precautions:

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.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Remarks: Avoid all possible sources of ignition (spark or flame).

Take precautionary measures against electrostatic discharges.

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Incompatible products:

Avoid contact with strong oxidizing agents, amines and strong bases.

Packaging materials:

Recommended: Use original container.

7.3 Specific end use(s):

Section 8: EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Risk management measures

Occupational Exposure Controls:

Technical measures: Use only with adequate ventilation. 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.

Occupational Exposure Limits: Refer to the CSR.

Derived No Effect Level (DNEL)

Exposure Pattern	Route	Workers	General Population
Long-term - systemic effects	Oral	N/A	5 mg/kg bw/day
Long-term - systemic effects	Dermal	10 mg/kg bw/day	5 mg/kg bw/day
Long-term - systemic effects	Inhalation	35.2 mg/m ³	8.6 mg/m ³

Predicted No Effect Concentration (PNEC)

PNEC freshwater	1 mg/l
PNEC intermittent	5.6 mg/l
PNEC marine water	0.1 mg/l
PNEC sediment freshwater	3.80 mg/kg ww
PNEC sediment marine water	0.38 mg/kg ww
PNEC sewage treatment plant	10 mg/l

8.2 Exposure controls

Engineering Controls

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 European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

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Person Protective measures

Respiratory protection: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Recommended: In case of dust formation particle filter P2.

Eye 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. Recommended: Tightly fitting safety goggles.

Skin protection

Hand protection:

Solid Material: 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. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations.

<1 hour (breakthrough time): use Nitrile rubber - NBR gloves.

Liquid (Molten) Material: Chemical-resistant, impervious gloves or gauntlets complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations.

<1 hour (breakthrough time): use PVC or Rubber gloves.

Skin and body (other than the hands): 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: chemical-resistant protective suit.

Hygienic measures: Wash hands, forearms and face thoroughly after handling chemical products, 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. Wash contaminated clothing before re-using. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls:

Technical measures: 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 may be necessary to reduce emissions to acceptable levels.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

General information

Physical state: Solid

Colour: White

Odour: Not available

Molecular weight: 148.12

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Safety data

pH: Not available

Boiling point/boiling range: 284.5V at 1013 hPa.

Auto-ignition temperature: 580oC

Flash point: 152oC

Flammability: Non flammable solid.

Explosive properties: Non explosive.

Oxidizing properties: Not oxidizing.

Vapor pressure (hPa, 26.6'C): 0.0006

Relative density: 1.527 g*cm-3 at 20.C

Water solubility: 6000 - 16400 mg/l (substance is hydrolytically unstable at pH 4, 7 and 9).

Solubility in organic solvents: Substance is soluble in formic acid (470 g/l at 20'C) and soluble in carbon disulfide.

Log partition coefficient n-Octanol / Water: 1.60 at 20V

Viscosity (Dynamic): 1.19 mPa*S at 132'C , 1.125 mPa*s at 155'C.

Vapour density: Solid material

Evaporation rate (n-butyl acetate=1): Solid material

Other information:

Me/tingpoint / meltingrange: 131.6oC

Surface tension: solid material

Granulometry: N/A

Dissociation constants (of Phthalic acid): pKa1 = 2.97, pKa2 = 5.43 at 35'C.

Section 10: STABILITY AND REACTIVITY

10.1 Stability

The product is stable at normal storage, handling and use temperatures.

10.2 Conditions to avoid

Heat, sparks, ignition points, flames, static electricity.

10.3 Materials to avoid

Keep away from water, alkalis, alcohols, oxygen, oxidizing agents, acids, nitrite, Metallic oxides. The substance is air sensitive.

10.4 Hazardous Decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Incomplete combustion and thermolysis produce potentially toxic gases such as: carbon monoxide, carbon dioxide and soot.

10.5 Hazard polymerization:

N/A

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Section 11: TOXICOLOGICAL INFORMATION**11.1 Information on toxicological effects****Acute toxicity by oral route, inhalation and dermal route:**

Phthalic anhydride is classified under Annex I of Dir 67/548/EEC as Xi, R22 - Harmful if swallowed, with corresponding classification under CLP of H302 - Harmful if swallowed.

Product / ingredient name	Test	Species	Dose
Phthalic Anhydride	LD50, Oral	Rat (male)	1,530 mg/kg bw
	LC50, discriminating dose, Inhalation	Rat (male/female)	3,160 mg/m ³ air
	LD50, discriminating dose, Dermal	Rabbit	3,160 mg/kg bw

Skin irritation / corrosion: Irritating.

Eye irritation: Irritating

Skin sensitization: Sensitizing.

Respiratory sensitization: Sensitizing.

Repeated dose toxicity - Oral route: NOAEL: 500 mg/kg body weight/day.

CMR Effects:

Mutagenicity: Genetic toxicity: Negative.

Carcinogenicity: No evidence of carcinogenicity was seen.

Oral route - NOAEL: 1000 mg/kg body weight/day.

Reproductive toxicity: No evidence of toxicity to reproductive organs. NOAEL: 1,000 mg/kg body weight/day.

Developmental toxicity: Phthalic anhydride is not a developmental toxicant. NOAEL: 1,700 mg/kg bw/day.

Toxicokinetics: Upon exposure to Phthalic anhydride, the material is easily hydrolyzed to Phthalic acid, which is secreted. No evidence of conjugate formation. The half-life of Phthalic acid was not determined.

Chronic/Other Effects: No relevant additional data is available.

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Section 12: ECOLOGICAL INFORMATION

General Remark on Ecotoxicity Testing: Phthalic anhydride reacts rapidly with water, forming phthalic acid. Since the half-life of phthalic anhydride in water is in the range of seconds to minutes, virtually tests with phthalic anhydride in aquatic solutions measure effects of phthalic acid rather than phthalic anhydride. Consequently, phthalic acid can also be used as the test substance to evaluate the aquatic effects of phthalic anhydride.

Substance name	Toxicity to ash	Toxicity to invertebrates	Toxicity to algae/terrestrial plants	Toxicity to other aquatic organisms	Other data (birds, bees, plants etc.)
Phthalic Anhydride	LC50/ 7 days: 560 mg/l (<i>Danio rerio</i>) Long term result: NOEC 10 mg/l (<i>Oncorhynchus mykiss</i>)	EC50 / 48H: >640 mg/l (<i>Daphnia magna</i>) Long term result: EC50 / 21 days: 10 mg/l (based on reproduction, may be a pH effect). (<i>Daohnia maana</i>)	EC50/72H: >100 mg/l (<i>Desmodesmus subspiculatus</i>) EC50 / 3 days: 731 mg/l at pH=2.80 (based on fruit germination). (<i>Lactuca saliva</i>)	Amphibian: LCD/24H: 224 mg/l (<i>Bufo bufo japonicus</i>)	N/A

Activated sludge inhibition of oxygen consumption testing (ISO 8192). EC50 (3hr): > 1000 mg/l

Mobility in soil: Adsorption/desorption - The substance does not adsorb to sediments and suspended solids, as the experimental Koc of 31 suggests that phthalic acid has a high mobility in soil.

Persistence and Oe aradabiitv

Biotic - Phthalic anhydride and the hydrolysis product phthalic acid are readily biodegradable.

Abiotic

Photodegradation in air - An atmospheric half-life of 21.4 days for phthalic anhydride and 13 days for phthalic acid is estimated for indirect photodegradation. **Biodegradation products:** not measured.

Photodegradation in water - In the hydrosphere, phthalic anhydride is transformed photochemically under anaerobic conditions showing polymerization to polyphenyl. The half-life is in the range from 3.9 - 9.6 hours. For photo-oxidation in sea water a half-life of 0.93 hours is obtained.

Hydrolysis - Phthalic anhydride hydrolyses by 50 % within 30.5 seconds in the presence of water at pH 7 and 25°C, forming phthalic acid.

Bioaccumulative potential: Phthalic anhydride has low potential to bioaccumulate based on a log Kow of 1.6 (BCF is calculated to be 3.4). The hydrolysis product, phthalic acid, has a calculated BCF of 3.16, and also has a low potential to bioaccumulate.

Secondary poisoning: Risk characterization is not required, because the substance is readily biodegradable and risk of bioaccumulation is low.

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Result of PBT/vPvB assessment (if CSR is required): Phthalic anhydride and its hydrolysis product Phthalic acid are neither a PBT nor a vPvB substance.

Other adverse effects: N/A

Section 13: DISPOSAL CONSIDERATIONS**13.1 Methods of disposal**

Examine possibilities for re-utilization. Product residues and un-cleaned empty containers should be packaged, sealed, labeled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When un-cleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).

13.2 Hazardous waste

The classification of the product may meet the criteria for a hazardous waste.

Section 14: TRANSPORT INFORMATION**14.1 Land Transportation (ADR/RiD) / Inland Waterway Transport (AND(R))**

UN number: Not regulated as a hazardous material

Proper shipping name: PHTHALIC ANHYDRIDE

14.2 Marine Transport (IMDG)

UN number: Not regulated as a hazardous material

Proper shipping name: PHTHALIC ANHYDRIDE

Environmental Hazard: No

14.3 Air Transport (ICAO/IATA)

UN number: Not regulated as a hazardous material

Proper shipping name: PHTHALIC ANHYDRIDE

14.4 If shipped in molten form:**Land Transportation (ADR/RiD) / inland Waterway Transport (AND(R)) / Marine Transport (IMDG)**

UN number: 3256

Proper shipping name: ELEVATED TEMPERATURE LIQUID, N.O.S

Chemical name: PHTHALIC ANHYDRIDE

Hazard class: 3 (Flammable liquid)

Packing group: III

ADR/RID-Labels: 3

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Marine Transport (IMDG)

UN number: 3256
Proper shipping name: ELEVATED TEMPERATURE LIQUID, Flammable N.O.S (Phthalic anhydride)
Hazard class: 3
Packing group: III
EmS number: F-E, S-D
Labels: 3
Environmental Hazard: No

Air Transport (ICAO/IATA)

Not allowed.

National Fire Protection Association Hazard Ratings- NFPA (R):

Health Hazard - 2

Flammability - 1

Reactivity - 1

Section 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

EU Regulation (EC) No.1907/2006 (REACH)

EU Regulation (EC) No 1272/2008 (CLP)

15.2 Chemical safety assessment

In accordance with REACH article 14, a Chemical Safety Assessment has been carried out for this substance.

Section 16: OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3:

R22 "Harmful if swallowed

R37/38 - Irritating to respiratory system and skin

R41 - Risk of serious damage to eyes

R42/43 - May cause sensitization by inhalation and skin contact

Safety phrases:

S02 - Keep out of the reach of children.

S23 - Do not breathe vapour / spray

S22 - Do not breathe dust.

S24/25 - Avoid contact with skin and eyes

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S37/39 - Wear suitable gloves and eye/face protection

S46 - if swallowed, seek medical advice immediately and show this container or label

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Full text of Hazards Statements referred to in sections 2 and 3:

H302 - Harmful if swallowed.

H335 - May cause respiratory irritation.

H315 - Causes skin irritation.

H318 - Causes serious eye damage.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 - May cause an allergic skin reaction.

Precautionary Statements:

P232 - Protect product from moisture

P261 - Avoid breathing dust.

P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P301+P312 - IF SWALLOWED: call a POISON CENTER or doctor / physician if you feel unwell.

P302+P352 - IF ON SKIN: Wash with plenty of soap and water.

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 eyes irritation occurs: Get medical advice/attention.

P402+P233 - Store in a well-ventilated place. Keep container tightly closed.

Training advice: Before using/handling the product one must read carefully present MSDS.

Recommended restriction: N/A

Key Legend Information:

ACGIH- American Conference of Governmental Industrial Hygienists

OSHA- Occupational Safety and Health Administration

NTP- National Toxicology program

IARC- International Agency for Research on Cancer

ND- Not Determined

N/A- Not available

R-phrases- Risk phrases

S-phrases- Safety phrases

H-statements - Hazard statements

P-statements - Precautionary statements

Version no. 1

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To the best of our knowledge the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.