

ISSUE DATE 9/9/2019
REVIEWED ON 9/9/2019

SAFETY DATA SHEET

OSHA HAZCOM STANDARD 29 CFR 1910.1200(G) AND GHS REV 03



H-13 A SIDE MATTE

FOOD SAFE PROTECTION FOR
CONCRETE COUNTERTOPS AND OTHER
HIGH PERFORMANCE CONCRETE

40 GROSSETT DRIVE, SUITE 200, KIRKWOOD, NY 13795
1 (800) 475-1975 • (607) 775-1948 • WWW.TRINIC.US • @TRINICLLC   

1. IDENTIFICATION

PRODUCT IDENTIFIER

- **Trade Name:** H-13 A-side
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Coating for concrete

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Manufacturer/Supplier:

Trinic LLC.

40 Grosset Drive, Suite 200

Kirkwood, NY 13795

www.TRINIC.us

(800) 475-1975 - toll free (US only)

Emergency telephone number:

Chemtrec (US): (800) 424-9300

Chemtrec (outside US): (703) 527-3887 (collect calls accepted)

2. HAZARD(S) IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE



Acute Tox. 4

H332 Harmful if inhaled

LABEL ELEMENTS

- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard-determining components of labeling:**
Ammonia, anhydrous
- **Hazard statements:**
H332 - Harmful if inhaled

2. HAZARD(S) IDENTIFICATION (CONT.)

- **Precautionary statements:**

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 - Use only outdoors or in a well-ventilated area.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 - Call a poison center/doctor if you feel unwell.

UNKNOWN ACUTE TOXICITY

This value refers to knowledge of known, established toxicological or ecotoxicological values. 85% of the mixture consists of component(s) of unknown toxicity.

CLASSIFICATION SYSTEM

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

- **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 0

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 0

Fire = 0

Physical Hazard = 0

HAZARD(S) NOT OTHERWISE CLASSIFIED (HNOC)

None known

3. COMPOSITION / INFORMATION ON INGREDIENTS

NON-HAZARDOUS COMPONENTS	
Proprietary Polyurethane Resin	50 - 80%
Acrylic Polymer	25 - 35%

CHEMICAL CHARACTERIZATION

Mixtures

DESCRIPTION

Non-regulated Material

DANGEROUS COMPONENTS

Non-regulated Material

ADDITIONAL INFORMATION

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

- **General information:** No special measures required.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** If skin irritation occurs, consult a doctor.
- **After eye contact:** If eye irritation occurs, consult a doctor. Rinse opened eye for several minutes under running water.
- **After swallowing:** If swallowed and symptoms occur, consult a doctor.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

No further relevant information available.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

No further relevant information available.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

No further relevant information available.

ADVICE FOR FIREFIGHTERS

- **Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Not required.

ENVIRONMENTAL PRECAUTIONS

Dilute with plenty of water.

Do not allow to enter sewers/surface or ground water.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the collected material according to regulations.

REFERENCE TO OTHER SECTIONS

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

PROTECTIVE ACTION CRITERIA FOR CHEMICALS

- **PAC-1:**
7664-41-7 Ammonia, anhydrous 30 ppm
- **PAC-2:**
7664-41-7 Ammonia, anhydrous 160 ppm
- **PAC-3:**
7664-41-7 Ammonia, anhydrous 1,100 ppm

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

- No special measures required.
- **Information about protection against explosions and fires:** No special measures required.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

SPECIFIC END USE(S)

No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL SYSTEMS:

No further data; see section 7.

CONTROL PARAMETERS

- **Components with occupational exposure limits:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

ADDITIONAL INFORMATION

The lists that were valid during the creation of this SDS were used as basis.

EXPOSURE CONTROLS

GENERAL PROTECTIVE AND HYGIENIC MEASURES

The usual precautionary measures for handling chemicals should be followed.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT.)

PERSONAL PROTECTIVE EQUIPMENT

- **Breathing equipment:** Respiratory protection is not required unless handling of the material produces nuisance airborne concentrations.
- **Protection of hands:**



Protective gloves

Material of gloves: Chemical resistant

Penetration time of glove material: The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

- **Eye protection:**



Goggles recommended during refilling

LIMITATION AND SUPERVISION OF EXPOSURE INTO THE ENVIRONMENT

None

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:**
 - Form: Liquid
 - Color: Milky-white
- **Odor:** Slight
- **Odor threshold:** Not determined
- **pH-value @ 20°C (68°F):** 7.9
- **Change in condition:**
 - Melting point/Melting range: Not determined
 - Boiling point/Boiling range: 95.6°C (204.1°F)
- **Flash point:** Not determined
- **Flammability (solid, gaseous):** Not applicable
- **Ignition temperature:** 430°C (806°F)

9. PHYSICAL AND CHEMICAL PROPERTIES (CONT.)

- **Decomposition temperature:** Not determined
- **Auto igniting:** Product is not self-igniting
- **Danger of explosion:** Product does not present an explosion hazard
- **Explosion limits:**
 - Lower: Not determined
 - Upper: Not determined
- **Vapor pressure @ 20°C (68°F):** ≤23 hPa (≤17.3 mm Hg)
- **Density @ 20°C (68°F):** 1.05 g/cm³ (8.7623 lbs/gal)
 - Relative density: Not determined
 - Vapor density: Not determined
 - Evaporation rate: Not determined
- **Solubility in / Miscibility with:**
 - Water: Dispersible
- **Partition coefficient (n-octanol/water):** Not determined
- **Viscosity:**
 - Dynamic: Not determined
 - Kinematic: Not determined
- **Solvent content:**
 - VOC content: 0.00 %
0.0 g/l / 0.00 lb/gal

OTHER INFORMATION

No further relevant information available.

10. STABILITY AND REACTIVITY

REACTIVITY

No further relevant information available.

CHEMICAL STABILITY

Product is stable under normal conditions.

THERMAL DECOMPOSITION / CONDITIONS TO BE AVOIDED

Avoid excessive heat, open flame, sparks and strong oxidizing agents. Protect from atmospheric moisture. Replace outage with inert dry nitrogen. Avoid water, acid, base (alkalis, ammonia), alcohols, metal compounds.

POSSIBILITY OF HAZARDOUS REACTIONS

No dangerous reactions known.

CONDITIONS TO AVOID

High temperatures
Incompatible materials

INCOMPATIBLE MATERIALS

Strong acids, strong bases
Strong oxidizing agents

HAZARDOUS DECOMPOSITION PRODUCTS

Carbon dioxide, carbon monoxide and nitrogen oxides

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

- **Acute toxicity:**
- **LD/LC50 values that are relevant for classification:** No data available.
- **Primary irritant effect:**
On the skin: No irritating effect.
On the eye: No irritating effect.
- **Additional toxicological information:** The product is not subject to classification according to internally approved calculation methods for preparations. When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories:**
IARC (International Agency for Research on Cancer): None of the ingredients are listed.
NTP (National Toxicology Program): None of the ingredients are listed.
OSHA-Ca (Occupational Safety & Health Administration): None of the ingredients are listed.

12. ECOLOGICAL INFORMATION

TOXICITY

- **Aquatic toxicity:** No further relevant information available.

PERSISTENCE AND DEGRADABILITY

No further relevant information available.

BIOACCUMULATIVE POTENTIAL

No further relevant information available.

MOBILITY IN SOIL

No further relevant information available.

ADDITIONAL ECOLOGICAL INFORMATION

- **General notes:** Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment:**
PBT: Not applicable.
vPvB: Not applicable.
- **Other adverse effects:** No further relevant information available.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHOD RECOMMENDATION

Smaller quantities can be disposed of with household waste.

Observe all federal, state and local environmental regulations when disposing of this material.

UNCLEANED PACKAGING RECOMMENDATION

Disposal must be made according to official regulations.

RECOMMENDED CLEANSING AGENT

Water, if necessary with cleansing agents.

14. TRANSPORT INFORMATION

- **UN-Number:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **UN proper shipping name:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **Transport hazard class(es):**
DOT, ADR/ADN, ADN, IMDG, IATA Class Non-Regulated Material
- **Packing group:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE

SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION)

- **Section 355 (extremely hazardous substances):** 7664-41-7 Ammonia, anhydrous
- **Section 313 (Specific toxic chemical listings):** 7664-41-7 Ammonia, anhydrous
- **TSCA (Toxic Substances Control Act):**

7732-18-5	Water, distilled water, deionized water	ACTIVE
7664-41-7	Ammonia, anhydrous	ACTIVE
- **Hazardous Air Pollutants:** None of the ingredients are listed.

CALIFORNIA PROPOSITION 65

- **Chemicals known to cause cancer:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for females:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for males:** None of the ingredients are listed.
- **Chemicals known to cause developmental toxicity:** None of the ingredients are listed.
- **New Jersey Right-to-Know List:** 7664-41-7 Ammonia, anhydrous
- **New Jersey Special Hazardous Substance List:**

7664-41-7	Ammonia, anhydrous	CO
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- **Pennsylvania Right-to-Know List:** 7664-41-7 Ammonia, anhydrous
- **Pennsylvania Special Hazardous Substance List:**

7664-41-7	Ammonia, anhydrous	E
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CARCINOGENIC CATEGORIES

- **EPA (Environmental Protection Agency):** None of the ingredients are listed.
- **TLV (Threshold Limit Value established by ACGIH):** None of the ingredients are listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health):** None of the ingredients are listed.

15. REGULATORY INFORMATION (CONT.)

GHS LABEL ELEMENTS

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard-determining components of labeling:**

Ammonia, anhydrous

- **Hazard statements:**

H332 Harmful if inhaled.

- **Precautionary statements:**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

P271 Use only outdoors or in a well-ventilated area.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P312 Call a poison center/doctor if you feel unwell.

NATIONAL REGULATIONS

None of the ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

DATE OF LAST REVISION / REVISION NUMBER: 9/9/2019 / 2

ABBREVIATIONS AND ACRONYMS

- ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety and Health
- OSHA: Occupational Safety & Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 4: Acute toxicity – Category 4

* Data compared to the previous version altered.

ISSUE DATE 8/16/2019
REVIEWED ON 8/16/2019

SAFETY DATA SHEET

OSHA HAZCOM STANDARD 29 CFR 1910.1200(G) AND GHS REV 03



H-13 B SIDE

**FOOD SAFE PROTECTION FOR
CONCRETE COUNTERTOPS AND OTHER
HIGH PERFORMANCE CONCRETE**

**40 GROSSETT DRIVE, SUITE 200, KIRKWOOD, NY 13795
1 (800) 475-1975 • (607) 775-1948 • WWW.TRINIC.US • @TRINICLLC**   

1. IDENTIFICATION

PRODUCT IDENTIFIER

- **Trade Name:** H-13 B-side
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Clear Concrete Sealer

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

Manufacturer/Supplier:

Trinic LLC.
 40 Grosset Drive, Suite 200
 Kirkwood, NY 13795
 www.TRINIC.us
 (800) 475-1975 - toll free (US only)

Emergency telephone number:

Chemtrec (US): (800) 424-9300
 Chemtrec (outside US): (703) 527-3887 (collect calls accepted)

2. HAZARD(S) IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE



Health hazard

Resp. Sens. 1

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

STOT RE 2

H373 May cause damage to the lung through prolonged or repeated exposure.



Acute Tox. 4

H332 Harmful if inhaled.

Eye Irrit. 2A

H319 Causes serious eye irritation.

Skin Sens. 1

H317 May cause an allergic skin reaction.

STOT SE 3

H335 May cause respiratory irritation.

Aquatic Chronic 4

H413 May cause long lasting harmful effects to aquatic life.

2. HAZARD(S) IDENTIFICATION (CONT.)

LABEL ELEMENTS

- Hazard pictograms:



- Signal word: Danger

- Hazard-determining components of labeling:

1,6-Hexamethylene Diisocyanate Homopolymer
hexamethylene-di-isocyanate

- Hazard statements:

H332 - Harmful if inhaled.

H319 - Causes serious eye irritation.

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

H317 - May cause an allergic skin reaction.

H335 - May cause respiratory irritation.

H373 - May cause damage to the lung through prolonged or repeated exposure.

H413 - May cause long lasting harmful effects to aquatic life.

- Precautionary statements:

P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.

P264 - Wash thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing must not be allowed out of the workplace.

P273 - Avoid release to the environment.

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

P284 - [In case of inadequate ventilation] wear respiratory protection.

P302+P352 - If on skin: Wash with plenty of water.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P312 - Call a poison center/doctor if you feel unwell.

P321 - Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

2. HAZARD(S) IDENTIFICATION (CONT.)

P314 - Get medical advice/attention if you feel unwell.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

P342+P311 - If experiencing respiratory symptoms: Call a poison center/doctor.

P363 - Wash contaminated clothing before reuse.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

UNKNOWN ACUTE TOXICITY

This value refers to knowledge of known, established toxicological or ecotoxicological values. 15% of the mixture consists of component(s) of unknown toxicity.

CLASSIFICATION SYSTEM

NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

- **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 1

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = *2

Fire = 1

Physical Hazard = 0

HAZARD(S) NOT OTHERWISE CLASSIFIED (HNOC)

None known

3. COMPOSITION / INFORMATION ON INGREDIENTS







NON-HAZARDOUS COMPONENTS		
666723-27-9	Hydrophilic Aliphatic Polyisocyanate Based on Hexamethylene Diisocyanate	15 - 35%

CHEMICAL CHARACTERIZATION

Mixtures

DESCRIPTION

Non-regulated Material

DANGEROUS COMPONENTS		
CAS: 28182-81-2	1,6-Hexamethylene Diisocyanate Homopolymer -----  Resp. Sens. 1, H334;  Acute Tox. 4, H332; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	60 - 90%
CAS: 102-71-6	Triethanolamine -----  Skin Irrit. 2, H315; Eye Irrit. 2B, H320	≤2.5%
CAS: 822-06-0 RTECS: MO 1740000	hexamethylene-di-isocyanate -----  Acute Tox. 3, H311; Acute Tox. 3, H331;  Resp. Sens. 1, H334;  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤2.5%

ADDITIONAL INFORMATION

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

- **General information:** Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.
- **After inhalation:** Seek immediate medical advice. Asthmatic symptoms may develop and may be immediate or delayed up to several hours. Extreme asthmatic reactions can be life threatening. In case of unconsciousness place patient stably in the side position for transportation. Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention.
- **After skin contact:** Remove contaminated clothes and shoes. Immediately wash with water and soap and rinse thoroughly. If skin irritation occurs, consult a doctor.
- **After eye contact:** Rinse opened eye for at least 15 minutes under running water. If symptoms persist, consult a doctor. If easy to do so, remove contact lenses if worn. If eye irritation occurs, consult a doctor.
- **After swallowing:** Rinse mouth with water. A person vomiting while lying on their back should be turned onto their side. Never give anything by mouth to an unconscious person. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. May cause irritation of the digestive tract. Symptoms may include abdominal pain, nausea, vomiting, and diarrhea

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible. May cause skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing. May cause irritation of the digestive tract; Symptoms may include abdominal pain, nausea, vomiting, and diarrhea.

Delayed: Symptoms affecting the respiratory tract can also occur several hours after overexposure.

4. FIRST-AID MEASURES (CONT.)

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes to Physician:

Eyes: Stain for evidence of corneal injury. If cornea is burned, instill antibiotic/steroid preparation as needed. Workplace vapors could produce reversible corneal epithelial edema impairing vision.

Skin: This compound is a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.

Ingestion: Treat symptomatically. There is no specific antidote. Inducing vomiting is contraindicated because of the irritating nature of the compound. Inhalation: Treatment is essentially symptomatic. An individual having a dermal or pulmonary sensitization reaction to this material should be removed from further exposure to any diisocyanate.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

- **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Closed container may forcibly rupture under extreme heat or when contents are contaminated with water (CO₂ formed). Use cold-water spray to cool fire-exposed containers to minimize the risk of rupture. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

ADVICE FOR FIREFIGHTERS

- **Special protective equipment for firefighters:**
Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Large fires can be extinguished with large volumes of water applied from a safe distance, since reaction between water and hot diisocyanate can be vigorous.

If possible, firefighters should control runoff water to prevent environmental contamination.

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing

5. FIRE-FIGHTING MEASURES

prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous.

ADDITIONAL INFORMATION

Hazardous Decomposition Products: By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke., Hydrogen cyanide, Isocyanate, Isocyanic Acid, Other undetermined compounds.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Not required.

ENVIRONMENTAL PRECAUTIONS

Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/surface or ground water.

METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

Dispose of the collected material according to regulations.

Implement site emergency response plan. Evacuate non-emergency personnel. The magnitude of the evacuation depends upon the quantity released, site conditions, and the ambient temperature. Isolate the area and prevent access of unauthorized personnel. Notify management.

Wear necessary personal protective equipment (PPE) as specified in the SDS or the site emergency response plan. Ventilate and remove ignition sources. Control the source of the leak. Contain the released material by damming, diking, retaining, or diverting into an appropriate containment area. Absorb or pump off as much of the spilled material as possible. When using absorbent, completely cover the spill area with suitable absorbent material such as vermiculite, etc. Allow the absorbent material to absorb the spilled liquid. Shovel the absorbent material into an approved metal container (i.e., 55-gallon salvage drum). Do not fill the container more than 2/3 full to allow for expansion, and do not tighten the lid on the container. Repeat application of absorbent material until all liquid has been removed from the surface.

Decontaminate the spill surface area using a neutralization solution (see list of solutions on the SDS); scrubbing the surface with a broom or brush helps the decontamination solution to penetrate into porous surfaces. Wait at least 15 minutes after first application of

6. ACCIDENTAL RELEASE MEASURES

the neutralization solution. Cover the area with absorbent material and shovel this into an approved metal container. Apply lid loosely to metal waste container (do not tighten the lid because carbon dioxide gas and heat can be generated from the neutralization process). With the lid still loosely in place, move the container to an isolated, well-ventilated area to allow release of carbon dioxide. After 72 hours, seal the container, and properly dispose of the waste material and any contaminated equipment (i.e., broom or brush) in accordance with existing federal, state and local regulations.

Neutralization options: ZEP® Commercial Heavy-Duty Floor Stripper, EASY OFF® Grill and Oven Cleaner, or a mixture of 90% Fantastic® Heavy Duty All Purpose Cleaner and 10% household ammonia

REFERENCE TO OTHER SECTIONS

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

PROTECTIVE ACTION CRITERIA FOR CHEMICALS

• PAC-1:

28182-81-2	1,6-Hexamethylene Diisocyanate Homopolymer	7.8 mg/m ³
102-71-6	Triethanolamine	15 mg/m ³
822-06-0	hexamethylene-di-isocyanate	0.018 ppm

• PAC-2:

28182-81-2	1,6-Hexamethylene Diisocyanate Homopolymer	86 mg/m ³
102-71-6	Triethanolamine	240 mg/m ³
822-06-0	hexamethylene-di-isocyanate	0.2 ppm

• PAC-3:

28182-81-2	1,6-Hexamethylene Diisocyanate Homopolymer	510 mg/m ³
102-71-6	Triethanolamine	1,500 mg/m ³
822-06-0	hexamethylene-di-isocyanate	3 ppm

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

- Ensure good ventilation/exhaustion at the workplace.
- Prevent formation of aerosols.
- Do not breathe vapors, mists, or dusts. Use adequate ventilation to keep airborne isocyanate levels below the exposure limits. Wear respiratory protection if material is heated, sprayed, used in a confined space, or if the exposure limit is exceeded. Warning properties (irritation of the eyes, nose and throat or odor) are not adequate to prevent overexposure from inhalation. This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations. Individuals with lung or breathing problems or prior allergic reactions to isocyanates must not be exposed to vapor or spray mist. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash thoroughly after handling. Do not breathe smoke and gases created by overheating or burning this material. Decomposition products can be highly toxic and irritating. Store in tightly closed containers to prevent moisture contamination. Do not reseal if contamination is suspected.
- **Information about protection against explosions and fires:** During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be dangerous.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

- **Requirements to be met by storerooms and receptacles:**
Storage period: 1 year at 25 degrees Celsius or 77 degrees Fahrenheit
Minimum storage temperature is 7 degrees Celsius or 44 degrees Fahrenheit
Maximum storage temperature is 50 degrees Celsius or 122 degrees Fahrenheit
Store away from food.
Avoid water, amines, strong bases, alcohols, copper alloys.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

SPECIFIC END USE(S)

No further relevant information available.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ADDITIONAL INFORMATION ABOUT DESIGN OF TECHNICAL SYSTEMS:

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable.

CONTROL PARAMETERS

- **Components with occupational exposure limits:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituents have no known exposure limits.

102-71-6 TRIETHANOLAMINE	
TLV	Long-term value: 5 mg/m ³
822-06-0 HEXAMETHYLENE-DI-ISOCYANATE	
REL	Long-term value: 0.035 mg/m ³ , 0.005 ppm Ceiling limit value: 0.14* mg/m ³ , 0.02* ppm *10-min
TLV	Long-term value: 0.034 mg/m ³ , 0.005 ppm BEI

ADDITIONAL INFORMATION

The lists that were valid during the creation of this SDS were used as basis.

EXPOSURE CONTROLS

GENERAL PROTECTIVE AND HYGIENIC MEASURES

Ensure that eyewash stations and safety showers are close to the workstation location.

Employees should be educated and trained in the safe use and handling of this product.

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing and wash before reuse.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION (CONT.)

PERSONAL PROTECTIVE EQUIPMENT

- Breathing equipment:



NIOSH/OSHA approved breathing apparatus

None required with normal use. Always use an approved respirator when vapor/aerosols are generated. Where risk assessment shows air-purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls.

If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

- Protection of hands:



Protective gloves

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material: The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

- Eye protection:



Safety glasses with side shields

- Body protection:



Protective work clothing

LIMITATION AND SUPERVISION OF EXPOSURE INTO THE ENVIRONMENT

Keep away from drains, surface and ground waters.

Avoid release into the environment.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

- **Appearance:**
 - Form: Liquid
 - Color: Light yellow
- **Odor:** Slight
- **Odor threshold:** Not determined
- **pH-value:** Not applicable
- **Change in condition:**
 - Melting point/Melting range: Not determined
 - Boiling point/Boiling range: Not determined
- **Flash point:** 185°C (365°F)
- **Flammability (solid, gaseous):** Not applicable
- **Ignition temperature:** 445°C (833°F)
- **Decomposition temperature:** 181°C (357.8°F)
- **Auto igniting:** Product is not self-igniting
- **Danger of explosion:** Product does not present an explosion hazard
- **Explosion limits:**
 - Lower: Not determined
 - Upper: Not determined
- **Vapor pressure:** HDI Polyisocyanate: 5.2 x 10⁻⁹ mm Hg @ 20°C
- **Density @ 25°C (77°F):** 1.15 g/cm³ (9.5968 lbs/gal)
 - Relative density: Not determined
 - Vapor density: Not determined
 - Evaporation rate: Not determined
- **Solubility in / Miscibility with:**
 - Water: Insoluble - Reacts slowly with water to liberate CO₂ gas
- **Partition coefficient (n-octanol/water):** ~ 6.62 log POW

9. PHYSICAL AND CHEMICAL PROPERTIES (CONT.)

- **Viscosity:**

Dynamic @ 20°C (68°F):	800 mPas
Kinematic:	Not determined

- **Solvent content:**

Organic solvents:	1.0 %
VOC content:	1.00 %
Solids content:	0.0 %

OTHER INFORMATION

No further relevant information available.

10. STABILITY AND REACTIVITY

REACTIVITY

The product is stable under normal conditions.

CHEMICAL STABILITY

Product is stable under normal conditions.

THERMAL DECOMPOSITION / CONDITIONS TO BE AVOIDED

No decomposition if used according to specifications.

POSSIBILITY OF HAZARDOUS REACTIONS

Contact with moisture, other materials that react with isocyanates or temperatures >177°C (>350°F), may cause polymerization.

CONDITIONS TO AVOID

High temperatures

Moisture

Incompatible materials

10. STABILITY AND REACTIVITY (CONT.)**INCOMPATIBLE MATERIALS**

Water
 Strong bases
 Alcohols
 Copper, copper alloys

HAZARDOUS DECOMPOSITION PRODUCTS

By Fire and High Heat: Carbon dioxide (CO₂), carbon monoxide (CO), oxides of nitrogen (NO_x), dense black smoke.

Hydrogen cyanide, Isocyanate, Isocyanic Acid, other undetermined compounds

11. TOXICOLOGICAL INFORMATION**INFORMATION ON TOXICOLOGICAL EFFECTS**

- Acute toxicity:
- LD/LC50 values that are relevant for classification:

28182-81-2 1,6-HEXAMETHYLENE DIISOCYANATE HOMOPOLYMER		
Inhalative	LC50/4 h	4.62 mg/l (Rat)
666723-27-9 HYDROPHILIC ALIPHATIC POLYISOCYANATE BASED ON HEXAMETHYLENE DIISOCYANATE		
Inhalative	LC50/4 h	158 mg/l (Rat) Toxicological studies of a comparable product. Converted acute toxicity point estimate: 0.5 mg/l (expert judgment) This substance was tested in a form (i.e. specific particle size distribution) that is different from the forms in which the substance is placed on the market and in which it can reasonably be expected to be used. A modified classification for acute inhalation toxicity is justified based on the "split-entry" concept and available data on particle size during end-use of the substance.
	LC50/96 hours	>100 mg/l (Zebra fish)
	Toxic Dose Low	µg/kg (Rat)

11. TOXICOLOGICAL INFORMATION (CONT.)

102-71-6 TRIETHANOLAMINE		
Oral	LD50	5,530 mg/kg (Rat) 2,200 mg/kg (Rabbit)
	LD50 Oral	2,200 ml/kg (Guinea Pig) 5,846 ml/kg (Mouse)
Dermal	LD50	>22,500 mg/kg (Rabbit)
822-06-0 HEXAMETHYLENE-DI-ISOCYANATE		
Oral	LD50	738 mg/kg (Rat)
Dermal	LD50	593 mg/kg (Rat)

- **Primary irritant effect:**

On the skin: May cause skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

Irritant to skin and mucous membranes.

On the eye: May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

Irritating effect.

Sensitization: Sensitization possible through inhalation. Sensitization possible through skin contact.

- **Additional toxicological information:** The product shows the following dangers according to internally approved calculation methods for preparations:

Harmful

Irritant

Health Effects and Symptoms Acute: Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or

11. TOXICOLOGICAL INFORMATION (CONT.)

guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

• **Carcinogenic categories:**

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to humans

Group 2A - Probably carcinogenic to humans

Group 2B - Possibly carcinogenic to humans

Group 3 - Not classifiable as to its carcinogenicity to humans

Group 4 - Probably not carcinogenic to humans

102-71-6	Triethanolamine	3
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NTP (National Toxicology Program): None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration): None of the ingredients are listed.

12. ECOLOGICAL INFORMATION

TOXICITY

- **Aquatic toxicity:** Avoid release into the environment. Runoff from fire control or dilution water may cause pollution.

28182-81-2 1,6-Hexamethylene Diisocyanate Homopolymer	
EC50	>1,000 mg/l (Green algae)
666723-27-9 Hydrophilic Aliphatic Polyisocyanate Based on Hexamethylene Diisocyanate	
EC50	>100 mg/l (Daphnia)
102-71-6 Triethanolamine	
EC50	609.98 mg/l (Daphnia)

12. ECOLOGICAL INFORMATION (CONT.)

PERSISTENCE AND DEGRADABILITY

Not easily biodegradable

BIOACCUMULATIVE POTENTIAL

Low potential to bioaccumulate

MOBILITY IN SOIL

No further relevant information available.

ADDITIONAL ECOLOGICAL INFORMATION

- **General notes:** Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment:**
PBT: Not applicable.
vPvB: Not applicable.
- **Other adverse effects:** Do not allow material to run into surface waters, wastewater or soil. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHOD RECOMMENDATION

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Observe all federal, state and local environmental regulations when disposing of this material.

Incineration is the preferred method.

Empty containers retain product residue; observe all precautions for product. Do not heat or cut empty container with electric or gas torch because highly toxic vapors and gases are formed. Do not reuse without thorough commercial cleaning and reconditioning. If container is to be disposed, ensure all product residues are removed prior to disposal.

RCRA Hazard Class: Non-regulated

UNCLEANED PACKAGING RECOMMENDATION

Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

- **UN-Number:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **UN proper shipping name:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **Transport hazard class(es):**
DOT, ADR/ADN, ADN, IMDG, IATA Class Non-Regulated Material
- **Packing group:**
DOT, ADR/ADN, IMDG, IATA Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

15. REGULATORY INFORMATION**SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE****SARA (SUPERFUND AMENDMENTS AND REAUTHORIZATION)**

- **Section 355 (extremely hazardous substances):** None of the ingredients are listed.
- **Section 313 (Specific toxic chemical listings):** 822-06-0 hexamethylene-di-isocyanate
- **TSCA (Toxic Substances Control Act):** All components have the value ACTIVE
- **Hazardous Air Pollutants:** 822-06-0 hexamethylene-di-isocyanate

CALIFORNIA PROPOSITION 65

- **Chemicals known to cause cancer:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for females:** None of the ingredients are listed.
- **Chemicals known to cause reproductive toxicity for males:** None of the ingredients are listed.

15. REGULATORY INFORMATION

- **Chemicals known to cause developmental toxicity:** None of the ingredients are listed.
- **New Jersey Right-to-Know List:**
102-71-6 Triethanolamine
822-06-0 hexamethylene-di-isocyanate
- **New Jersey Special Hazardous Substance List:** None of the ingredients are listed.
- **Pennsylvania Right-to-Know List:** 102-71-6 Triethanolamine
- **Pennsylvania Special Hazardous Substance List:** None of the ingredients are listed.

CARCINOGENIC CATEGORIES

- **EPA (Environmental Protection Agency):** None of the ingredients are listed.
- **TLV (Threshold Limit Value established by ACGIH):** None of the ingredients are listed.
- **NIOSH-Ca (National Institute for Occupational Safety and Health):** None of the ingredients are listed.

GHS LABEL ELEMENTS

The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms:**



- **Signal word:** Danger
- **Hazard-determining components of labeling:**
1,6-Hexamethylene Diisocyanate Homopolymer
hexamethylene-di-isocyanate

- **Hazard statements:**

H332 Harmful if inhaled.

H319 Causes serious eye irritation.

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

H317 May cause an allergic skin reaction.

H335 May cause respiratory irritation.

H373 May cause damage to the lung through prolonged or repeated exposure.

H413 May cause long lasting harmful effects to aquatic life.

15. REGULATORY INFORMATION (CONT.)• **Precautionary statements:**

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective gloves / eye protection / face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	If on skin: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P304+P341	If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a poison center/doctor if you feel unwell.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a poison center/doctor.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional national/international regulations.

NATIONAL REGULATIONS

None of the ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

DATE OF LAST REVISION / REVISION NUMBER: 8/16/2019 / 1

ABBREVIATIONS AND ACRONYMS

- ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
- ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
- IMDG: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- IATA: International Air Transport Association
- ACGIH: American Conference of Governmental Industrial Hygienists
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- NFPA: National Fire Protection Association (USA)
- HMIS: Hazardous Materials Identification System (USA)
- VOC: Volatile Organic Compounds (USA, EU)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- NIOSH: National Institute for Occupational Safety and Health
- OSHA: Occupational Safety & Health Administration
- TLV: Threshold Limit Value
- PEL: Permissible Exposure Limit
- REL: Recommended Exposure Limit
- Acute Tox. 3: Acute toxicity – Category 3
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
- Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

* Data compared to the previous version altered.