



SAFETY DATA SHEET

Permabond TA440B

1. Identification

Product identifier

Product name Permabond TA440B

Recommended use of the chemical and restrictions on use

Application Adhesive.

Details of the supplier of the safety data sheet

Supplier Permabond LLC
14 Robinson Street
Pottstown, PA 19464
USA
Telephone: 732-868-1372 or 800-640-7599
Website: www.permabond.com

Emergency telephone number

Emergency telephone Medical: Poison Control Center 866-827-6282 (toll free) or 303-389-1109 Transport: CHEMTREC 800-424-9300

2. Hazard(s) identification

Classification of the substance or mixture

OSHA Regulatory Status Classification complies with OSHA Hazard Communication Standard (29 CFR 1910.1200) and is consistent with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317 Repr. 2 - H361d STOT SE 3 - H335

Label elements

Hazard symbols



Signal word

Danger

Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
H361d Suspected of damaging the unborn child.
H335 May cause respiratory irritation.

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Precautionary statements

P201 Obtain special instructions before use.
 P202 Do not handle until all safety precautions have been read and understood.
 P261 Avoid breathing vapor/ spray.
 P264 Wash contaminated skin thoroughly after handling.
 P272 Contaminated work clothing must not be allowed out of the workplace.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302+P352 If on skin: Wash with plenty of 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.
 P308+P313 If exposed or concerned: Get medical advice/ attention.
 P310 Immediately call a poison center/ doctor.
 P332+P313 If skin irritation occurs: Get medical advice/ attention.
 P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
 P362+P364 Take off contaminated clothing and wash it before reuse.
 P405 Store locked up.
 Dispose of contents and/or container according to Federal, State/Provincial and local governmental regulations.

Contains

BENZYL METHACRYLATE, METHACRYLIC ACID, 2-HYDROXYETHYL METHACRYLATE, COPPER NAPHTHENATE, 2-ETHYLHEXANOIC ACID, COPPER SALT, 2-ETHYLHEXANOIC ACID, NAPHTHENIC ACIDS

3. Composition/information on ingredients

Mixtures

BENZYL METHACRYLATE CAS number: 2495-37-6	10-30%
Classification Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317 STOT SE 3 - H335	
METHACRYLIC ACID CAS number: 79-41-4	1-5%
Classification Acute Tox. 4 - H302 Acute Tox. 3 - H311 Acute Tox. 4 - H332 Skin Corr. 1A - H314 Eye Dam. 1 - H318 STOT SE 3 - H335	
2-HYDROXYETHYL METHACRYLATE CAS number: 868-77-9	1-5%
Classification Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317	

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LOW BOILING POINT HYDROGEN TREATED NAPHTHA CAS number: 64742-48-9	1-5%
Classification Asp. Tox. 1 - H304	
COPPER NAPHTHENATE CAS number: 1338-02-9 REACH registration exemption – < 1 tonne	<1%
Classification Flam. Liq. 3 - H226 Acute Tox. 4 - H302 Skin Sens. 1 - H317 Not relevant.	
2-ETHYLHEXANOIC ACID, COPPER SALT CAS number: 22221-10-9	<1%
Classification Acute Tox. 4 - H302 Eye Dam. 1 - H318 Repr. 2 - H361d Not relevant.	
2-ETHYLHEXANOIC ACID CAS number: 149-57-5	<1%
Classification Repr. 2 - H361d	
NAPHTHENIC ACIDS CAS number: 1338-24-5	<1%
Classification Skin Irrit. 2 - H315 Eye Irrit. 2A - H319 Skin Sens. 1 - H317	
COPPER DI(ACETATE) CAS number: 142-71-2	<1%
Classification Acute Tox. 4 - H302 Skin Corr. 1B - H314 Eye Dam. 1 - H318 Not relevant.	

The full text for all hazard statements is displayed in Section 16.

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Composition comments Exact percentage is a trade secret. Concentration range is provided to assist users in providing appropriate protections.

4. First-aid measures

Description of first aid measures

Inhalation	Move the exposed person to fresh air. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention if any discomfort continues.
Skin Contact	Remove contaminated clothing. Wash skin thoroughly with soap and water. If symptoms develop, obtain medical attention
Eye contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Remove any contact lenses and open eyelids wide apart. Get medical attention immediately.

Most important symptoms and effects, both acute and delayed

Inhalation	May cause respiratory system irritation.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.

Indication of immediate medical attention and special treatment needed

Notes for the doctor	No specific recommendations. Treat symptomatically.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Extinguish with foam, carbon dioxide, dry powder or water fog.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

Special hazards arising from the substance or mixture

Hazardous combustion products	Burning produces irritating, toxic and obnoxious fumes. Carbon monoxide, carbon dioxide, and unknown hydrocarbons.
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Advice for firefighters

Protective actions during firefighting	Use water to keep fire exposed containers cool and disperse vapors.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet.
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Environmental precautions

Environmental precautions	Avoid the spillage or runoff entering drains, sewers or watercourses.
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Methods and material for containment and cleaning up

Methods for cleaning up	Absorb spillage with sand or other inert absorbent. Transfer to suitable, labelled containers for disposal.
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Reference to other sections	For personal protection, see Section 8. For waste disposal, see section 13.
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7. Handling and storage

Precautions for safe handling

Usage precautions Avoid contact with skin, eyes and clothing. Do not breathe vapour/spray. Wash hands thoroughly after handling. Keep container tightly sealed when not in use.

Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place.

Specific end uses(s)

Specific end use(s) Adhesive.

8. Exposure controls/Personal protection

Control parameters

Occupational exposure limits

METHACRYLIC ACID

Long-term exposure limit (8-hour TWA): ACGIH 20 ppm 70 mg/m³

2-ETHYLHEXANOIC ACID

Long-term exposure limit (8-hour TWA): ACGIH 5 mg/m³ inhalable fraction and vapor

ACGIH = American Conference of Governmental Industrial Hygienists.

Ingredient comments WEL = Workplace Exposure Limits

Exposure controls

Appropriate engineering controls Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection Safety goggles or safety glasses with side shields. Full face protection should be used if the potential for slashing or spraying exists.

Hand protection Nitrile rubber or Viton™ gloves are recommended. Cotton or other absorbent gloves should not be worn.

Other skin and body protection Employee must wear appropriate protective clothing and equipment to prevent any possibility of skin contact with this substance.

Hygiene measures Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated.

Respiratory protection Respiratory protection may be required if excessive airborne contamination occurs. Use NIOSH approved respirator if there is potential to exceed exposure limit(s).

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid.
Color	Green.
Odor	Characteristic.
Odor threshold	No information available.
pH	Not relevant.
Melting point	Not available.
Initial boiling point and range	Not relevant.

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Flash point	>100°C
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	1.1
Solubility(ies)	Insoluble in water. Soluble in the following materials: Organic solvents.
Partition coefficient	Not available.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not available.
Viscosity	≈8500 mPa s @ 23°C
Explosive properties	Not relevant.
Oxidizing properties	Not applicable.
Other information	Not relevant.
Volatile organic compound	<2 %, 20 grams/liter (Estimated)

10. Stability and reactivity

Reactivity	The following materials may react with the product: Strong oxidizing agents. Acids.
Stability	Stable at normal ambient temperatures. Polymerizes when heated.
Possibility of hazardous reactions	Reactions with the following materials may generate heat: Amines.
Conditions to avoid	Do not store near heat sources or expose to high temperatures.
Materials to avoid	Amines. Strong oxidizing agents.
Hazardous decomposition products	Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

11. Toxicological information

Information on toxicological effects

Toxicological effects	The toxicological properties of this product have not been fully evaluated. Use of good industrial hygiene practices is required. Avoid direct contact with skin or eyes. Do not ingest or inhale.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Irritating to skin.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Causes serious eye damage.

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Respiratory sensitization

Respiratory sensitization Based on available data the classification criteria are not met.

Skin sensitization

Skin sensitization May cause sensitisation by skin contact.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Genotoxicity - in vivo Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity No component of this product present at levels great than or equal to 0.1% is identified as a known carcinogen.

Reproductive toxicity

Reproductive toxicity - fertility Contains a substance/a group of substances which may damage fertility. Contains a substance/a group of substances which may damage the unborn child.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Based on available data the classification criteria are not met.

Inhalation May cause respiratory system irritation.

Ingestion No harmful effects expected from quantities likely to be ingested by accident.

Skin Contact Irritating to skin.

Eye contact Causes serious eye damage.

Acute and chronic health hazards Irritating to skin. Irritating to eyes. May cause sensitisation by skin contact.

Route of exposure Skin and/or eye contact Inhalation

Target Organs Eyes Skin Respiratory tract

Toxicological information on ingredients.

BENZYL METHACRYLATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀) 3,980.0 mg/kg

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀) 2,000.1 mg/kg

Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

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Animal data Erythema/eschar score: Very slight erythema - barely perceptible (1). Fully reversible within 72 hours. Slightly irritating.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating.

Skin sensitization

Skin sensitization Local Lymph Node Assay (LLNA) - Mouse: Sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No evidence of reproductive toxicity in animal studies.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure NOAEL 500 mg/kg, Oral, Rat

Aspiration hazard

Aspiration hazard Not available.

METHACRYLIC ACID

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 1,320.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 1,000.0

Species Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC₅₀ vapours mg/l) 7.1

Species Rat

Skin corrosion/irritation

Animal data Dose: Method: OECD 404, 3 minutes, Rabbit Corrosive.

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Corrosive.

Respiratory sensitization

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Respiratory sensitization	Guinea pig: Not sensitizing. Method: various test systems
<u>Skin sensitization</u>	
Skin sensitization	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Based on available data the classification criteria are not met.
<u>Carcinogenicity</u>	
Carcinogenicity	CMR: no
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies.
Reproductive toxicity - development	Non-teratogenic, not embryotoxic
<u>Specific target organ toxicity - single exposure</u>	
Target organs	Respiratory tract Irritating.
<u>Specific target organ toxicity - repeated exposure</u>	
Target organs	No specific target organs known.
<u>Aspiration hazard</u>	
Aspiration hazard	Based on available data the classification criteria are not met.

2-HYDROXYETHYL METHACRYLATE

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	5,000.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	5,000.0
Species	Rabbit
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No information available.
<u>Skin corrosion/irritation</u>	
Animal data	Erythema/eschar score: Very slight erythema - barely perceptible (1). Not irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Moderately irritating.
<u>Respiratory sensitization</u>	
Respiratory sensitization	No information available.
<u>Skin sensitization</u>	
Skin sensitization	Guinea pig maximization test (GPMT) - Guinea pig: Sensitizing.

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Germ cell mutagenicity

Genotoxicity - in vitro Conclusive data but not sufficient for classification.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No specific test data are available.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL ≥ 1000 mg/kg/day, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - NOAEL: ≥ 1000 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No specific test data are available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No specific test data are available.

Aspiration hazard

Aspiration hazard Not applicable.

LOW BOILING POINT HYDROGEN TREATED NAPHTHA

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 5,000.1

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.1

Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Not available.

Skin corrosion/irritation

Animal data Method: OECD 404, Rabbit Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Not irritating.

Skin sensitization

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

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Carcinogenicity	Read-across data. NOAEC \geq 2200 mg/m ³ , Inhalation, Rat
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Read-across data. Fertility - NOAEL \geq 3000 mg/kg/day, Oral, Rat
Reproductive toxicity - development	Developmental toxicity: - NOAEC: \geq 300 ppm, Inhalation, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not available.
<u>Aspiration hazard</u>	
Aspiration hazard	Not available.

2-ETHYLHEXANOIC ACID

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	3,000.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	1,142.0
Species	Rabbit
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No information available.
<u>Skin corrosion/irritation</u>	
Animal data	Method: OECD 404, Rabbit Moderately irritating.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Method: OECD 405, Rabbit Not irritating.
<u>Skin sensitization</u>	
Skin sensitization	Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Gene mutation: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.
<u>Carcinogenicity</u>	
Carcinogenicity	No information available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Screening - NOAEL 3845 mg/kg, Oral, Rat F1

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Reproductive toxicity - development Developmental toxicity: - NOAEL: 250 mg/kg/day, Oral, Rat

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard Not available.

NAPHTHENIC ACIDS

Acute toxicity - oral

Notes (oral LD₅₀) No information available.

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀) 3,161.0 mg/kg)

Species Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Animal data Rabbit Irritating.

Serious eye damage/irritation

Serious eye damage/irritation No information available.

Skin sensitization

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility Screening - NOAEL 900 mg/kg/day, Oral, Rat P

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

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COPPER DI(ACETATE)

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,000.0

Species Rat

Acute toxicity - dermal

Acute toxicity dermal (LD₅₀ mg/kg) 2,000.1

Species Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No information available.

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Method: OECD 405, Rabbit Irreversible effect.

Skin sensitization

Skin sensitization Guinea pig maximization test (GPMT) - Guinea pig: Not sensitizing.

Germ cell mutagenicity

Genotoxicity - in vitro Gene mutation: Negative.

Genotoxicity - in vivo Negative.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility Two-generation study - LOAEL >1500 ppm, Oral, Rat P Two-generation study - LOAEL 1500 ppm, Oral, Rat F1

Reproductive toxicity - development Developmental toxicity: - NOAEL: 6 mg/kg/day, Oral, Rabbit

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

12. Ecological information

Ecotoxicity There are no data on the ecotoxicity of this product.

Bioaccumulative potential

Partition coefficient Not available.

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Other adverse effects

Other adverse effects None known.

13. Disposal considerations

Waste treatment methods

General information Empty containers may contain product residue; follow SDS and label warnings even after they have been emptied.

Disposal methods Dispose of according to Federal, State and local governmental regulations.

14. Transport information

General The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN Number

UN No. (International) Not applicable.

UN No. (DOT) Not applicable.

UN proper shipping name

Proper shipping name (International) Not applicable.

Proper shipping name (DOT) Not applicable.

Transport hazard class(es)

Transport Labels (International) No transport warning sign required.

DOT transport labels

No transport warning sign required.

Packing group

Packing group (International) Not applicable.

DOT packing group Not applicable.

Environmental hazards

Environmentally Hazardous Substance

No.

Special precautions for user

Not applicable.

DOT TIH Zone Not applicable.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information

US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None above reporting levels

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CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)

None above reporting limits

SARA Extremely Hazardous Substances EPCRA Reportable Quantities

None above reporting limits

SARA 313 Emission Reporting

None above reporting limits

SARA (311/312) Hazard Categories

Acute
Chronic

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm

Inventories

Canada - DSL/NDSL

All the ingredients are listed or exempt.

US - TSCA

All the ingredients are listed or exempt.

US - TSCA 12(b) Export Notification

None above reporting limits

16. Other information

Revision date	1/3/2022
Revision	3
Supersedes date	1/31/2018
Hazard statements in full	H226 Flammable liquid and vapor. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H361d Suspected of damaging the unborn child.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.