



A. Schulman

25-200840 Leveling Compound Resin Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of Issue: 06/02/2015

Revision date: 09/14/2016

Version: 5.0



SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : 25-200840 Leveling Compound Resin
Product code : US30517

1.2. Relevant identified uses of the substance or mixture and uses advised against
Use of the substance/mixture : Product for industrial use only

1.3. Details of the supplier of the safety data sheet

A. Schulman Inc
3637 Ridgewood Road
Fairlawn, OH 44333

Customer service phone : 1-800-64-RESIN

Regulatory Information Contact : ea@us.aschulman.com

1.4. Emergency telephone number

Emergency number

: For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN707712
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification
Skin corrosion/irritation, Category 2
Serious eye damage/eye irritation, Category 1
Sensitisation — Skin, category 1
Germ cell mutagenicity, Category 2
Carcinogenicity, Category 1B
Reproductive toxicity, Category 2
Specific target organ toxicity — Repeated exposure, Category 1

Causes skin irritation
Causes serious eye damage
May cause an allergic skin reaction
Suspected of causing genetic defects
May cause cancer
Suspected of damaging fertility or the unborn child
Causes damage to organs through prolonged or repeated exposure

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US)



Signal word (GHS-US)
Hazard statements (GHS-US)

: Danger
: Causes skin irritation
: May cause an allergic skin reaction
: Causes serious eye damage
: Suspected of causing genetic defects
: May cause cancer
: Suspected of damaging fertility or the unborn child
: Causes damage to organs through prolonged or repeated exposure
: Keep away from heat, sparks, open flames, hot surfaces. - No smoking
: Keep cool
: Do not breathe dust, fume, gas, mist, spray, vapours
: Wash face, hands, hands, forearms and face thoroughly after handling
: Avoid release to the environment
: Wear eye protection, face protection, protective gloves
: Immediately call a doctor, a POISON CENTER



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In case of fire: Use ABC-powder, carbon dioxide (CO₂), dry extinguishing powder, dry sand, foam to extinguish
Store in a well-ventilated place. Keep container tightly closed
Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%
reaction product: bisphenol-A-(epichlorohydrin), epoxy resin (number average molecular weight ≤ 700)	(CAS No.) 25068-38-6	>= 25
Quartz (SiO ₂): 1-10% fine fraction	(CAS No.) 14808-60-7	10 - 25
Aluminum stearate	(CAS No.) 637-12-7	10 - 25
Silicon dioxide	(CAS No.) 112926-00-8	5 - 10
Allyl glycidyl ether	(CAS No.) 106-92-3	1 - 5
TITANIUM DIOXIDE	(CAS No.) 13463-67-7	1 - 5
cadmium sulphide	(CAS No.) 1306-23-6	1 - 5

Full text of classification categories and H statements : see section 16
The specific chemical identity and/or exact percentage (concentration) of the composition has been withheld as a Trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

- Move the affected person away from the contaminated area. Immediately consult a doctor/medical service. If possible, show him this sheet. Falling this, show him the packaging or label. Do not leave affected person unattended.

First-aid measures after inhalation

- Call a physician immediately. If unconscious place in recovery position and seek medical advice.

First-aid measures after skin contact

- After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Rinse immediately with plenty of water for 15 minutes. If symptoms persist, call a physician.

First-aid measures after eye contact

- Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum). If eye irritation persists, consult a specialist.

First-aid measures after ingestion

- In all cases of doubt, or when symptoms persist, seek medical advice. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Do not give milk

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation

- May cause drowsiness or dizziness. Headache.

Symptoms/injuries after skin contact

- Skin irritation, dermatitis and sensitisation. May cause sensitisation of susceptible persons by skin contact.

Symptoms/injuries after eye contact

- Causes serious eye damage.

Symptoms/injuries after ingestion

- May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

4.3. Indication of any immediate medical attention and special treatment needed

If you feel unwell, seek medical advice.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

- Alcohol resistant foam, dry chemical powder, Carbon dioxide

Unsuitable extinguishing media

- high volume water jet



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- 5.2. Special hazards arising from the substance or mixture**
- : Do not allow run-off from fire fighting to enter drains or water courses.
 - : Stable under normal conditions.

5.3. Advice for firefighters

- Firefighting instructions
- : Comply with local regulations for disposal.
- Protection during firefighting
- : In case of fire: Wear self-contained breathing apparatus.
- Other information
- : Use water spray/stream to protect personnel and to cool endangered containers. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment
- : Wear suitable protective clothing.
- Emergency procedures
- : Remove all sources of ignition. Ensure adequate ventilation. Evacuate personnel to a safe area. Special attention should be given to low areas/pits where flammable vapours can accumulate.

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

- For containment
- : Collect the residue by means of a non-combustible absorbent material. Collect all waste in suitable and labelled containers and dispose according to local legislation.
- Methods for cleaning up
- : Collect spillage. Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Store in a well-ventilated place. Keep container tightly closed.

6.4. Reference to other sections

See Heading 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

- : Use isolated drainage to prevent discharge to soil. Take precautionary measures against static discharge. The product may charge electrostatically: use earthing leads when transferring from one container to another. In order to rule out potential electrostatic discharge production, the system must be adequately grounded.

Precautions for safe handling

- : Do not exceed the occupational exposure limits (OEL). Avoid contact with skin and eyes. Provide sufficient air exchange and/or exhaust. Provide good ventilation in process area to prevent formation of vapour.

- : Do not eat, drink or smoke when using this product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

- : Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Containers which are opened should be properly resealed and kept upright to prevent leakage.

- : < 25 °C

Storage temperature

- : This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been. Explosion-free electrical equipment and lighting with earth. Electrical equipment should be protected to the appropriate standard.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

reaction product: **bisphenol-A-(epichlorohydrin), epoxy resin (number average molecular weight 5 700) (25068-38-6)**

Not applicable



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Allyl glycidyl ether (106-92-3)	
ACGIH	ACGIH TWA (ppm)
OSHA	OSHA PEL (Ceiling) (mg/m ³)
OSHA	OSHA PEL (Ceiling) (ppm)
IDLH	US IDLH (ppm)
NIOSH	NIOSH REL (TWA) (mg/m ³)
NIOSH	NIOSH REL (TWA) (ppm)
NIOSH	NIOSH REL (STEL) (mg/m ³)
NIOSH	NIOSH REL (STEL) (ppm)
Silicon dioxide (112926-00-8)	
OSHA	OSHA PEL (TWA) (mg/m ³)
OSHA	OSHA PEL (TWA) (ppm)
OSHA	Remark (OSHA)
NIOSH	NIOSH REL (TWA) (mg/m ³)
TITANIUM DIOXIDE (13463-67-7)	
ACGIH	ACGIH TWA (mg/m ³)
OSHA	OSHA PEL (TWA) (mg/m ³)
IDLH	US IDLH (mg/m ³)
Quartz (SiO2): 1-10% fine fraction (14808-60-7)	
ACGIH	ACGIH TWA (mg/m ³)
IDLH	US IDLH (mg/m ³)
NIOSH	NIOSH REL (TWA) (mg/m ³)
Aluminum stearate (637-12-7)	
ACGIH	ACGIH TWA (mg/m ³)
Not applicable	
cadmium sulphide (1306-23-6)	
Not applicable	

8.2. Exposure controls

Materials for protective clothing

Hand protection

Eye protection

Skin and body protection

Respiratory protection

Environmental exposure controls

: Chemical resistant safety shoes. Overall.

: Wear suitable gloves. PVC gloves. A waterproof cream can protect exposed skin parts. Do not use if contact has already taken place. In case of reutilization, clean gloves before taking off and store in well-aired place. Before removing gloves clean them with soap and water. Protective gloves have to be replaced at the first sign of deterioration.

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Do not wear contact lenses. Wear tight fitting safety glasses or facial screen.

: Wear anti-static footwear and clothing. Tight protective clothing required. Only wear fitting, comfortable and clean protective clothing. Wash clothing before re-using. Avoid contact with skin. May cause sensitisation of susceptible persons by skin contact.

: In case of insufficient ventilation, wear suitable respiratory equipment. If excessive exposure exists, use only approved air-purifying or supplied air respirator operated in a positive pressure mode. Consult supplier for specific recommendations.

: Do not empty into drains.



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: YEW - YELLOW
Odour	: slight
Odour threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: 154 °C
Relative evaporation rate (butylacetate=1)	: 141 °C
Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: Water: Insoluble
Self ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: > 20.5 mm ² /s
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

Vapours may form explosive mixture with air.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Strong acids. Strong bases. Oxidizing agents. Peroxides.

10.6. Hazardous decomposition products

Stable under normal conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Allyl glycidyl ether (106-92-3)

LDS0 oral rat : 1600 mg/kg



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Allyl glycidyl ether (106-92-3)	
LD50 dermal rabbit	2550 mg/kg
ATE US (oral)	1600.000 mg/kg bodyweight
ATE US (dermal)	2550.000 mg/kg bodyweight
ATE US (vapours)	2.560 mg/l/4h
Silicon dioxide (112926-00-8)	
LD50 oral rat	> 10000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg

cadmium sulphide (1306-23-6)	
LD50 oral rat	890 mg/kg bodyweight
ATE US (oral)	890.000 mg/kg bodyweight

Skin corrosion/irritation : Causes skin irritation.
 Serious eye damage/irritation : Causes serious eye damage.
 Respiratory or skin sensitisation : May cause an allergic skin reaction.
 Germ cell mutagenicity : Suspected of causing genetic defects.
 Carcinogenicity : May cause cancer.

Silicon dioxide (112926-00-8)	
IARC group	3 - Not classifiable

TITANIUM DIOXIDE (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans
In OSHA Hazard Communication Carcinogen list	Yes

Quartz (SiO2): 1-10% fine fraction (14808-60-7)	
IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
In OSHA Hazard Communication Carcinogen list	Yes

cadmium sulphide (1306-23-6)	
IARC group	1 - Carcinogenic to humans
In OSHA Hazard Communication Carcinogen list	Yes

Reproductive toxicity : Suspected of damaging fertility or the unborn child.

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard : Not classified

Symptoms/injuries after inhalation : May cause drowsiness or dizziness. Headache.

Symptoms/injuries after skin contact : Skin irritation, dermatitis and sensitisation. May cause sensitisation of susceptible persons by skin contact.

Symptoms/injuries after eye contact : Causes serious eye damage.

Symptoms/injuries after ingestion : May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

Other information : In lifetime inhalation studies of rats, airborne respirable titanium dioxide have been shown to cause an increase in lung tumors at concentrations associated with substantial particle lung laboratory animals, such as mice and hamsters. Indicate that rats are significantly more susceptible to lung overload and inflammation that causes lung cancer. However, epidemiology studies do not suggest an increased risk of cancer in humans from occupational exposure to titanium dioxide.



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SECTION 12: Ecological information

12.1. Toxicity

Silicon dioxide (112926-00-8)	
LC50 fish 1	> 10000 mg/l
EC50 Daphnia 1	> 10000 mg/l

12.2. Persistence and degradability

25-200840 Leveling Compound Resin	
Persistence and degradability	No data available.

12.3. Bioaccumulative potential

25-200840 Leveling Compound Resin	
Bioaccumulative potential	No data available.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other adverse effects

: No data available.

Effect on the global warming

: No known effects from this product.

GWPPrIx comment

: No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)

: Disposal must be done according to official regulations. Hazardous waste. Solvent.

Sewage disposal recommendations

: Do not allow to enter into surface water or drains.

Waste disposal recommendations

: Dispose of this material and its container to hazardous or special waste collection point. Handle contaminated packaging in the same way as the product itself.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Other information

: No supplementary information available.

TDG

Transport by sea

UN-No. (IMDG) : 3082
Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : 5 L



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Marine pollutant

: Yes



Air transport

UN-No. (IATA)

: 3082

Proper Shipping Name (IATA)

: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.

Class (IATA)

: 9 - Miscellaneous Dangerous Goods

Packing group (IATA)

: III - Minor Danger

SECTION 15: Regulatory Information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

Silicon dioxide

CAS No 112926-00-8

5 - 10%

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.36(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

15.3. US State regulations

California Proposition 65 - This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer, developmental and/or reproductive harm

TITANIUM DIOXIDE (13463-67-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	
Quartz (SiO2): 1-10% fine fraction (14808-60-7)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	Non-significant risk level (NSRL)
Yes	No	No	No	

Allyl glycidyl ether (106-92-3)

- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List



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Silicon dioxide (112926-00-8)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

TITANIUM DIOXIDE (13463-67-7)

- U.S. - Illinois - Toxic Air Contaminant Carcinogens
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

Quartz (SiO2): 1-10% fine fraction (14808-60-7)

- U.S. - Illinois - Toxic Air Contaminant Carcinogens
- U.S. - Illinois - Toxic Air Contaminants
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) List

cadmium sulphide (1306-23-6)

- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
- U.S. - Pennsylvania - RTK (Right to Know) - Special Hazardous Substances
- U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Abbreviations and acronyms:

REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SVHC	Substance of very high concern
CLP	Classification Labelling Packaging Regulation: Regulation (EC) No 1272/2008
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("MARPOL" is short for marine pollution and 73/78 short for the years 1973 and 1978.)
IBC	The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
OSHA	Occupational Safety & Health Administration
TWA	Time Weighted Average
STEL	Occupational Exposure Limits - Short Term Exposure Limits (STELs)
ACGIH	American Conference of Government Industrial Hygienists
TLV	Threshold Limit Value
IARC	International Agency for Research on Cancer



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Purchaser acknowledges that it has sole control and responsibility to ensure, on a continuing basis, that the products and any method of use or application of the products are suitable for its purposes. Any assistance provided by A. Schulman to purchaser relative to the product, including without limitation, formulation, manufacturing and testing for the use or application of the products for purchaser's purposes, is made without any express or implied warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose.

A. Schulman will not be liable for consequential or indirect damages and purchaser's exclusive remedy for claims (including claims for breach of warranty, negligence and strict liability) is limited to the replacement of the non-conforming products or the refund of the purchase price of the non-conforming products or, with regard to services, to re-process purchaser's materials.

END OF SAFETY DATA SHEET



A. Schulman

**Triethylenetetramine (TETA)
Safety Data Sheet**



according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Date of Issue: 03/16/2016 Revision date: 03/18/2016 Version: 1.3

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

1.1. Product Identifier

Product form : Mixture
Product name : Triethylenetetramine (TETA)
Product code : US580022

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

: Product for industrial use only

1.3. Details of the supplier of the safety data sheet

A. Schulman Inc
3637 Ridgewood Road
Fairlawn, OH 44333
Customer service phone : 1-800-54-RESIN
Regulatory Information Contact : es@us.aschulman.com

1.4. Emergency telephone number

Emergency number : For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300 CCN707712
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification
Acute Tox. 4 (Oral)
Acute Tox. 4 (Dermal)
Skin Corr. 1B
Eye Dam. 1
Skin Sens. 1
Lact
Repr. 1B

2.2. Label elements

GHS-US labeling
Hazard pictograms (GHS-US)



Signal word (GHS-US)
Hazard statements (GHS-US)

Precautionary statements (GHS-US)

- : Danger
- : Harmful If swallowed or in contact with skin
- : Causes severe skin burns and eye damage
- : May cause an allergic skin reaction
- : Causes serious eye damage
- : May damage fertility or the unborn child
- : May cause harm to breast-fed children
- : Obtain special instructions before use
- : Do not handle until all safety precautions have been read and understood
- : Do not breathe dust, fume, gas, mist, spray, vapors
- : Avoid breathing dust, fume, gas, mist, spray, vapors
- : Avoid contact during pregnancy/while nursing
- : Wash hands, forearms and face thoroughly after handling



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Triethylenetetramine (TETA)

Safety Data Sheet

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Do not eat, drink or smoke when using this product:
 Contaminated work clothing must not be allowed out of the workplace
 Wear protective clothing, protective gloves, eye protection
 If swallowed: Call a doctor, a POISON CENTER if you feel unwell
 If swallowed: rinse mouth. Do NOT induce vomiting
 If on skin: Wash with plenty of water
 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 If inhaled: Remove person to fresh air and keep comfortable for breathing
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If exposed or concerned: Get medical advice/attention
 Immediately call a doctor, a POISON CENTER
 Call a doctor, a POISON CENTER if you feel unwell
 Specific treatment (see Additional information on this label)
 Rinse mouth
 If skin irritation or rash occurs: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse
 Wash contaminated clothing before reuse
 Store locked up
 Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS-US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product Identifier	%
Triethylenetetramine	(CAS No) 112-24-3	>= 25
2-(2-aminoethylamino)ethanol, (AEEA)	(CAS No) 111-41-1	1-5
1-(2-Aminocetyl) piperazine	(CAS No) 140-31-8	1-5
Tetraethylenepentamine	(CAS No) 112-57-2	1-5

The specific chemical identity and/or exact percentage (concentration) of the composition has been withheld as a trade secret.

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

- Move the affected person away from the contaminated area. Immediately consult a doctor/medical service, if possible, show him this sheet. Falling this, show him the packaging or label. Do not leave affected person unattended.

First-aid measures after inhalation

- Call a physician immediately. If unconscious place in recovery position and seek medical advice.

First-aid measures after skin contact

- After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. Rinse immediately with plenty of water for 15 minutes. If symptoms persist, call a physician.

First-aid measures after eye contact

- Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately and thoroughly, pulling the eyelids well away from the eye (15 minutes minimum), if eye irritation persists, consult a specialist.

First-aid measures after ingestion

- In all cases of doubt, or when symptoms persist, seek medical advice. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Do not give milk.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation

- May cause drowsiness or dizziness. Headache



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- Symptoms/injuries after skin contact
 - Symptoms/injuries after eye contact
 - Symptoms/injuries after ingestion
 - 4.3. Indication of any immediate medical attention and special treatment needed
- If you feel unwell, seek medical advice.

SECTION 5: Firefighting measures

- 5.1. Extinguishing media
 - Suitable extinguishing media
 - Unsuitable extinguishing media
- 5.2. Special hazards arising from the substance or mixture
- Fire hazard
- Reactivity
- 5.3. Advice for firefighters
 - Firefighting instructions
 - Protection during firefighting
 - Other information

SECTION 6: Accidental release measures

- 6.1. Personal precautions, protective equipment and emergency procedures
 - 6.1.1. For non-emergency personnel
 - Protective equipment
 - Emergency procedures
 - 6.1.2. For emergency responders
 - No additional information available
 - 6.2. Environmental precautions
 - 6.3. Methods and material for containment and cleaning up
 - Methods for cleaning up
 - 6.4. Reference to other sections
- See Heading 8.

SECTION 7: Handling and storage

- 7.1. Precautions for safe handling
 - Additional hazards when processed
 - Precautions for safe handling
 - Hygiene measures
 - 7.2. Conditions for safe storage, including any incompatibilities
 - Storage conditions
- Use isolated drainage to prevent discharge to soil. Take precautionary measures against static discharge. The product may charge electrostatically; use earthing leads when transferring from one container to another. In order to rule out potential electrostatic discharge production, the system must be adequately grounded.
- Do not exceed the occupational exposure limits (OEL). Avoid contact with skin and eyes. Provide sufficient air exchange and/or exhaust. Provide good ventilation in process area to prevent formation of vapor.
- Do not eat, drink or smoke when using this product.
- Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Containers which are opened should be properly resealed and kept upright to prevent leakage.



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Storage temperature

: < 25 °C

Heat-ignition

: This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been. Explosion-proof electrical equipment and grounded lighting. Electrical equipment should be protected to the appropriate standard

7.3. Specific and use(s) (Read the technical data sheet).

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Triethylenetetramine (TETA)	
ACGIH	Not applicable
OSHA	Not applicable
2-(2-aminoethylamino)ethanol, (AEEA) (111-41-1)	
ACGIH	Not applicable
OSHA	Not applicable
Triethylenetetramine (112-24-3)	
ACGIH	Not applicable
OSHA	Not applicable
Tetraethylenepentamine (112-57-2)	
ACGIH	Not applicable
OSHA	Not applicable
1-(2-Aminoethyl) piperazine (140-31-9)	
ACGIH	Not applicable
OSHA	Not applicable

8.2. Exposure controls

Materials for protective clothing

: Chemical resistant safety shoes. Overall.

Hand protection

: Wear suitable gloves. PVC gloves. A waterproof cream can protect exposed skin parts. Do not use if contact has already taken place. In the case of wanting to use the gloves again, clean them before taking off and air them well. Before removing gloves clean them with soap and water. Replace when worn.

Eye protection

: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Do not wear contact lenses. Wear tight fitting safety glasses or facial screen.

Skin and body protection

: Wear anti-static footwear and clothing. Tight protective clothing required. Only wear fitting, comfortable and clean protective clothing. Wash clothing before re-using. Avoid contact with skin. May cause sensitization of susceptible persons by skin contact.

Respiratory protection

: In case of insufficient ventilation, wear suitable respiratory equipment. If excessive exposure exists, use only approved air-purifying or supplied air respirator operated in a positive pressure mode. Consult supplier for specific recommendations.

Environmental exposure controls

: Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state

: Liquid

Color

: No data available

Odor

: Amines

Odor threshold

: No data available



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pH	: No data available
Melting point	: No data available
Freezing point	: ≤ 35 °C
Boiling point	: > 277 °C
Flash point	: ≈ 148 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: No data available
Relative vapor density at 20 °C	: No data available
Solubility	: Water: 100 %
Log Pow	: No data available
Log Kow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: ≈ 21.4 cSt @ 40° C
Viscosity, dynamic	: No data available
9.2. Other information	
No additional information available	

SECTION 10: Stability and reactivity

- 10.1. Reactivity**
Stable under normal conditions.
- 10.2. Chemical stability**
Under normal conditions of storage and use, hazardous decomposition products should not be produced.
- 10.3. Possibility of hazardous reactions**
vapors may form explosive mixture with air.
- 10.4. Conditions to avoid**
Heat.
- 10.5. Incompatible materials**
Strong acids. Strong bases. Oxidizing agents. Peroxides.
- 10.6. Hazardous decomposition products**
Stable under normal conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

: Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

Triethylenetetramine (TETA)	
ATE US (oral)	500,000 mg/kg body weight
ATE US (dermal)	1100,000 mg/kg body weight
Triethylenetetramine (112-24-3)	
LD50 oral rat	2500 mg/kg
LD50 dermal rabbit	550 mg/kg



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Triethylenetetramine (112-24-3)	
ATE US (oral)	2500,000 mg/kg body weight
ATE US (dermal)	550,000 mg/kg body weight
Tetraethylenepentamine (112-57-2)	
ATE US (oral)	500,000 mg/kg body weight
ATE US (dermal)	1100,000 mg/kg body weight
1-(2-Aminoethyl) piperazine (140-31-8)	
LD50 oral rat	1001 mg/kg
LD50 dermal rabbit	866 mg/kg
ATE US (oral)	1001,000 mg/kg body weight
ATE US (dermal)	866,000 mg/kg body weight

Skin corrosion/irritation

: Causes severe skin burns and eye damage.

Serious eye damage/irritation

: Causes serious eye damage

Respiratory or skin sensitization

: May cause an allergic skin reaction.

Genm cell mutagenicity

: Not classified

Carcinogenicity

: Not classified

Reproductive toxicity

: May cause harm to breast-fed children. May damage fertility or the unborn child.

Specific target organ toxicity (single exposure)

: Not classified

Specific target organ toxicity (repeated exposure)

: Not classified

Aspiration hazard

: Not classified

Symptoms/injuries after inhalation

: May cause drowsiness or dizziness. Headache.

Symptoms/injuries after skin contact

: May cause sensitization of susceptible persons by skin contact

Symptoms/injuries after eye contact

: Causes serious eye damage

Symptoms/injuries after ingestion

: May cause burns or irritation of the linings of the mouth, throat, and gastrointestinal tract.

SECTION 12: Ecological information

12.1. Toxicity

Triethylenetetramine (112-24-3)	
LC50 fish 1	570 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
EC50 Daphnia 1	31,1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	495 mg/l (Exposure time: 96 h - Species: Pimephales promelas)
Tetraethylenepentamine (112-57-2)	
LC50 fish 1	420 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])
EC50 Daphnia 1	24,1 mg/l (Exposure time: 48 h - Species: Daphnia magna)
1-(2-Aminoethyl) piperazine (140-31-8)	
LC50 fish 1	1950 - 2460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	32 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
NOEC chronic algae	31 mg/l

12.2. Persistence and degradability

Triethylenetetramine (TETA)	
Persistence and degradability	No data available.



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12.3. Bioaccumulative potential

Triethylenetetramine (TETA)	No data available.
Bioaccumulative potential	
Triethylenetetramine (112-24-3)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-1,4
Tetraethylenepentamine (112-57-2)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	< 1
1-(2-Aminoethyl) piperazine (140-31-8)	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-1,48

12.4. Mobility in soil

no additional information available

12.5. Other adverse effects

Other adverse effects

: No data available.

Effect on the global warming

: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)

: Disposal must be done according to official regulations. Hazardous waste. Solvent.

Waste treatment methods

: Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations

: Do not allow to enter into surface water or drains.

Waste disposal recommendations

: Dispose of this material and its container to hazardous or special waste collection point. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description

: UN2259 Triethylenetetramine, 8, II

UN-No. (DOT)

: UN2259

Proper Shipping Name (DOT)

: Triethylenetetramine

Transport hazard class(es) (DOT)

: 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT)

: 8 - Corrosive



Packing group (DOT)

: II - Medium Danger

DOT Packaging Non Bulk (49 CFR 173.xxx)

: 202

DOT Packaging Bulk (49 CFR 173.xxx)

: 242



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DOT Special Provisions (49 CFR 172.102)

B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized.
IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.
T7 - 4 178.274(d)(2) Normal 178.275(d)(3)
TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: *t* is the maximum mean bulk temperature during transport, *T* is the temperature in degrees celsius of the liquid during filling, and *a* is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (*T*) and the maximum mean bulk temperature during transportation (*T*) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: *d*15 and *d*50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.

DOT Packaging Exceptions (49 CFR 173.300) : 154

DOT Quantity Limitations Passenger aircraft/rail : 1 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 CFR 173.275) : 30 L

DOT Vessel Stowage Location

B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.

DOT Vessel Storage Other : 40 - Slow "clear of living quarters", 52 - Slow "separated from" acids

Additional Information

Other Information : No supplementary information available.

Transport by sea

UN-No. (IMDG) : 2259

Proper Shipping Name (IMDG) : TRIETHYLENETETRAMINE

Class (IMDG) : 8 - Corrosive substances

Packing group (IMDG) : II - substances presenting medium danger

Air transport

UN-No. (IATA) : 2259

Proper Shipping Name (IATA) : TRIETHYLENETETRAMINE

Class (IATA) : 8 - Corrosives

Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title II of the Superfund Amendments and Reauthorization Act of 1996 and 40 CFR Part 372.

15.2. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm



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2-(2-aminoethoxy)ethanol, (AEEA) (111-41-1)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) List

Triethylenetetramine (112-24-3)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) List

Tetraethylenepentamine (112-57-2)

- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) List

1-(2-Aminoethyl) piperazine (140-31-8)

- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - New Jersey - Special Health Hazards Substances List
- U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Abbreviations and acronyms:

REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
SVHC	Substance of very high concern
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG	International Maritime Dangerous Goods
IATA	International Air Transport Association
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
MARPOL 73/78	International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("MARPOL" is short for marine pollution and 73/78 short for the years 1973 and 1978.)
IBC	The International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
OSHA	Occupational Safety & Health Administration
TWA	Time Weighted Average
STEL	Occupational Exposure Limits - Short Term Exposure Limits (STELs)
ACGIH	American Conference of Government Industrial Hygienists
TLV	Threshold Limit Value
IARC	International Agency for Research on Cancer



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