SILVER FERN CHEMICAL, INC.

Safety Data Sheet

Amino Ethyl Piperazine

1. IDENTIFICATION

Product name : AMINOETHYLPIPERAZINE (AEP)

Product Use & Description : Specific use(s): Various industrial applications

Details of the Distributor : Silver Fern Chemical, Inc.
121 W. De La Guerra Street, Suite B
Santa Barbara, CA 93101 USA
Phone: 1-866-282-3384
Website - www.silverfernchemical.com
Email Address - info@silverfernchemical.com

24 Hour Emergency Contact : **Infotrac: 1-800-535-5053 (USA & Canada); Outside USA & Canada 1-352-323-3500**

2. HAZARDS IDENTIFICATION

Emergency Overview

Appearance	Clear liquid
Color	colorless
Odor	ammoniacal

GHS Classification

Acute toxicity, Category 3, Dermal
Skin corrosion, Category 1B
Serious eye damage, Category 1
Skin sensitization, Category 1
Reproductive toxicity, Category 2
Specific target organ systemic toxicity - repeated exposure, Category 1, Inhalation, Respiratory Tract
Short-term (acute) aquatic hazard, Category 3
Long-term (chronic) aquatic hazard, Category 3

GHS label elements

Hazard pictograms :

Signal Word : **Danger**

Hazard Statements : H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe mist, vapors or spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/container in accordance with local regulation.

Carcinogenicity:

IARC : No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA : No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Substance

Hazardous ingredients

Chemical name	CAS-No.	Classification	Concentration [% W/W]
2-Piperazine-1-ylethylamine	140-31-8	Acute Tox. 3; H311 Skin Corr. 1B; H314 Eye Dam. 1; H318 Skin Sens. 1; H317 Repr. 2; H361 STOT RE 1; H372 Aquatic Acute 3; H402 Aquatic Chronic 3; H412	>= 90 - <= 100

Actual concentration is withheld as a trade secret

For the full text of the H-Statements mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

General advice : Immediate medical attention is required.
Move out of dangerous area.
Show this material safety data sheet to the doctor in attendance.
Symptoms of poisoning may appear several hours later.

Inhalation : If breathed in, move person into fresh air.
Consult a physician after significant exposure.

Skin contact : Take off contaminated clothing and shoes immediately.
Rinse immediately with plenty of water.
Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
Take victim immediately to hospital.

Eye contact : Rinse with plenty of water.
Get medical attention immediately. Continue to rinse during transport of patient.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
Small amounts splashed into eyes can cause irreversible tissue damage and blindness.

Ingestion : Clean mouth with water and drink afterwards plenty of water.
Never give anything by mouth to an unconscious person.
Take victim immediately to hospital.
Do not induce vomiting! May cause chemical burns in mouth and throat.

Notes to physician

Symptoms	:	The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.
Risks	:	Toxic in contact with skin. May cause an allergic skin reaction. Causes serious eye damage. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure if inhaled. Causes severe burns.
Treatment	:	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Specific hazards during fire fighting / Specific hazards arising from the chemical	:	Do not allow run-off from fire fighting to enter drains or water courses.
Combustion products	:	Carbon oxides Nitrogen oxides (NOx)
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

See also Section 9. Physical and chemical properties: Safety data

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Use personal protective equipment. Wear respiratory protection. Ensure adequate ventilation.
Emergency measures on accidental release	:	Evacuate personnel to safe areas. Only qualified personnel equipped with suitable protective equipment may intervene. Prevent unauthorized persons entering the zone.
Environmental precautions	:	Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up / Methods for containment	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

Reference to other sections	:	For disposal considerations see section 13. For personal protection see section 8.

7. HANDLING AND STORAGE

Handling

Advice on safe handling	:	Persons with a history of skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used. For personal protection see section 8. Avoid formation of aerosol. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.

Storage

Requirements for storage areas and containers	:	Prevent unauthorized access. Keep container tightly closed in a dry and well-ventilated place. Reacts with copper, aluminum, zinc and their alloys
Other data	:	No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Contains no substances with occupational exposure limit values.

Appropriate engineering controls

Effective exhaust ventilation system
Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protective equipment

Eye/face protection	:	Safety glasses with side-shields conforming to EN166
Hand protection	:	Glove material: butyl-rubber Break through time: > 30 min Glove thickness: >= 0.2 mm Wearing time < 30 minutes
	:	Glove material: butyl-rubber Break through time: > 240 min

Glove thickness: >= 0.6 mm
Wearing time
< 240 minutes

: Glove material: butyl-rubber
Break through time: > 480 min
Glove thickness: >= 0.8 mm
Wearing time
< 480 minutes

: The data about break through time/strength of material are standard values! The exact break through time/strength of material has to be obtained from the producer of the protective glove.

Skin and body protection : Protective suit

Respiratory protection : In the case of vapor or aerosol formation use a respirator with an approved filter.
Wear full face mask supplied with:
Gas cartridge K (ammonia, green).

Hygiene measures : Avoid contact with skin, eyes and clothing.
When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and immediately after handling the product.
Wash contaminated clothing before re-use.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
If the product contaminates rivers and lakes or drains inform respective authorities.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form : Clear liquid

Color : colorless

Odor : ammoniacal

Odor Threshold : No data available

Safety data

pH : 12 at 1 % solution

Melting point/range : -19 °C
at 1,013 hPa

Boiling point/boiling range : 220.4 °C
at 1,013 hPa

Flash point : 99 °C
at 1,013 hPa

Method: ASTM D 93

Ignition temperature	:	> 300 °C
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Flammability (liquids)	:	Not classified as a flammability hazard
Lower explosion limit	:	1.1 %(V)
Upper explosion limit	:	9.4 %(V)
Vapor pressure	:	0.015 hPa at 20 °C
Relative vapor density	:	4.5
Density	:	984 kg/m3 at 20 °C
Relative density	:	0.980 at 20 °C
Water solubility	:	completely miscible
Solubility in other solvents	:	Miscible with ethanol.
Partition coefficient: n-octanol/water	:	log Pow: -1.48 at 20 °C
Autoignition temperature	:	> 300 °C
Decomposition temperature	:	No data available
Viscosity, dynamic	:	14.1 mPa.s at 20 °C
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

This material safety datasheet only contains information relating to safety and does not replace any product information or product specification.

10. STABILITY AND REACTIVITY

Conditions to avoid	:	Extremes of temperature and direct sunlight.
Materials to avoid	:	Reacts with copper, aluminum, zinc and their alloys Strong acids and oxidizing agents Halogenated compounds
Hazardous decomposition products	:	Nitrogen oxides (NOx)
Thermal decomposition	:	No data available
Reactivity	:	Stable under normal conditions.

Chemical stability	:	Stable under recommended storage conditions.
Hazardous reactions	:	Heating can release hazardous gases.

11. TOXICOLOGICAL INFORMATION

PRODUCT INFORMATION:

Hazard Summary

Acute toxicity	:	Toxic in contact with skin.
Skin corrosion/irritation	:	Causes severe burns.
Serious eye damage/eye irritation	:	Causes serious eye damage.
Respiratory or skin sensitization	:	Respiratory sensitization: Not classified based on available information. Skin sensitization: May cause an allergic skin reaction.
Germ cell mutagenicity	:	Not classified based on available information.
Carcinogenicity	:	Not classified based on available information.
Reproductive toxicity	:	Suspected of damaging fertility or the unborn child.
STOT-single exposure	:	Not classified based on available information.
STOT-repeated exposure	:	Causes damage to organs (Respiratory Tract) through prolonged or repeated exposure if inhaled.
Aspiration hazard	:	Not classified based on available information.

Potential Health Effects

Inhalation	:	Inhalation of aerosols may cause irritation to mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin	:	Symptoms may be delayed. Toxic in contact with skin. May cause an allergic skin reaction. Causes severe skin burns.
Eyes	:	Causes serious eye damage.
Ingestion	:	Harmful if swallowed. Causes burns. May be harmful if swallowed.
Aggravated Medical Condition	:	None known.
Symptoms of Overexposure	:	The symptoms and effects are as expected from the hazards as shown in section 2. No specific product related symptoms are known.

Toxicology Assessment

Further information : Suspected of damaging fertility or the unborn child.
Causes damage to organs through prolonged or repeated exposure.

Carcinogenicity:

IARC : No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA : No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP : No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

TOXICOLOGY DATA FOR THE INGREDIENTS:
Toxicology Assessment

Component: 2-Piperazine-1-ylethylamine

CMR effects : Reproductive toxicity: Suspected human reproductive toxicant

Test result

Component: 2-Piperazine-1-ylethylamine

Acute oral toxicity : LD50: > 2,000 - 5,000 mg/kg
Species: Rat
Information taken from reference works and the literature.

Acute dermal toxicity : LD50: > 200 - 1,000 mg/kg
Species: Rabbit
Information taken from reference works and the literature.

Skin irritation : Result: Causes burns.

Eye irritation : Result: Risk of serious damage to eyes.

Sensitization : Species: Guinea pig
Result: May cause sensitization by skin contact.
Method: OECD Test Guideline 406

Germ cell mutagenicity
Genotoxicity in vitro : Ames test
Result: negative
Method: OECD Test Guideline 471

Genotoxicity in vivo : Chromosome aberration test in vivo
Species: Mouse
Result: No evidence of genotoxic effects in vivo.

Carcinogenicity : No data available

Target Organ Systemic Toxicant - Repeated exposure	:	Routes of exposure: Inhalation Target Organs: Respiratory Tract Causes damage to organs through prolonged or repeated exposure.

12. ECOLOGICAL INFORMATION

PRODUCT INFORMATION:

Ecotoxicology Assessment

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

Test result

Elimination information (persistence and degradability)

Bioaccumulation	:	Not expected considering the low log Pow value.
Mobility	:	Due to its physical and chemical properties, transport between environmental compartments is not expected
Biodegradability	:	Result: Not readily biodegradable.

Further information on ecology

Biochemical Oxygen Demand (BOD)	:	<60% BOD, 28-days, Closed Bottle Test (OECD 301D).

Hazardous to the ozone layer

Regulation	:	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	:	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

COMPONENTS:

Test result

Component: 2-Piperazine-1-ylethylamine

Ecotoxicity effects

Toxicity to fish	:	LC50: > 100 mg/l Exposure time: 96 h Species: Pimephales promelas (fathead minnow)
Toxicity to daphnia and other aquatic invertebrates	:	EC50: > 10 - 100 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
Toxicity to algae	:	EC50: > 100 mg/l

Exposure time: 72 h
Species: Pseudokirchneriella subcapitata (green algae)

Toxicity to bacteria : EC50: > 100
Exposure time: 28 d

Elimination information (persistence and degradability)

Bioaccumulation : Not expected considering the low log Pow value.

Mobility : Due to its physical and chemical properties, transport between environmental compartments is not expected

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301D

Further information on ecology

Biochemical Oxygen Demand (BOD) : <60% BOD, 28-days, Closed Bottle Test (OECD 301D).

13. DISPOSAL CONSIDERATIONS

Product : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Hazardous waste
Dispose of contents/container in accordance with local regulation.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.

14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 2815
Proper shipping name	:	N-Aminoethylpiperazine
Class	:	8
Subsidiary risk	:	6.1
Packing group	:	III
Labels	:	8 (6.1)
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852
Packing instruction (LQ)	:	Y841
Environmentally hazardous	:	no

IMDG-Code

UN number	:	UN 2815
Proper shipping name	:	N-AMINOETHYLPIPERAZINE

Class	:	8
Subsidiary risk	:	6.1
Packing group	:	III
Labels	:	8 (6.1)
EmS Code	:	F-A, S-B
Marine pollutant	:	no

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	:	UN 2815
Proper shipping name	:	N-Aminoethylpiperazine
Class	:	8
Subsidiary risk	:	6.1
Packing group	:	III
Labels	:	8 (6.1)
ERG Code	:	153
Marine pollutant	:	no
Reportable Quantity	:	This product does not contain an environmentally hazardous substance per 49 CFR 172.101, Appendix A.

15. REGULATORY INFORMATION

Notification status

DSL	:	YES. All components of this product are on the Canadian DSL
AICS	:	YES. On the inventory, or in compliance with the inventory
NZIoC	:	YES. On the inventory, or in compliance with the inventory
ENCS	:	YES. On the inventory, or in compliance with the inventory
ISHL	:	YES. On the inventory, or in compliance with the inventory
KECI	:	YES. On the inventory, or in compliance with the inventory
PICCS	:	YES. On the inventory, or in compliance with the inventory
IECSC	:	YES. On the inventory, or in compliance with the inventory
TCSI	:	YES. On the inventory, or in compliance with the inventory
TSCA	:	YES. All chemical substances in this product are either listed on the TSCA Inventory or in compliance with a TSCA Inventory exemption.

For explanation of abbreviations, see section 16.

TSCA list

TSCA 5(a)(2)	:	No substances are subject to a Significant New Use Rule.
TSCA 12(b)	:	No substances are subject to TSCA 12(b) export notification requirements.

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards	:	Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation Respiratory or skin sensitization Reproductive toxicity

Specific target organ toxicity (single or repeated exposure)

SARA 302 : This material does not contain any components with a section 302 EHS TPQ.

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals subject to disclosure and listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

US State Regulations

Massachusetts Right To Know

2-Piperazine-1-ylethylamine	140-31-8

Pennsylvania Right To Know

2-Piperazine-1-ylethylamine	140-31-8

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California Prop. 65

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

16. OTHER INFORMATION

Full text of H-Statements

H311	:	Toxic in contact with skin.
H314	:	Causes severe skin burns and eye damage.
H317	:	May cause an allergic skin reaction.
H318	:	Causes serious eye damage.
H361	:	Suspected of damaging fertility or the unborn child.
H372	:	Causes damage to organs through prolonged or repeated exposure if inhaled.
H402	:	Harmful to aquatic life.
H412	:	Harmful to aquatic life with long lasting effects.

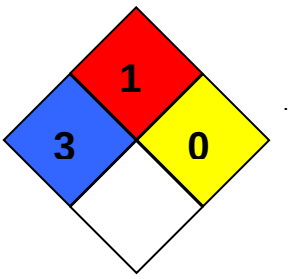
Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Further information

HMIS Classification : Health Hazard: 3
Chronic Health Hazard: *
Flammability: 1
Physical hazards: 0

NFPA Classification : Health Hazard: 3
Fire Hazard: 1
Reactivity Hazard: 0



Notification status explanation

REACH	1907/2006 (EU)
DSL	Canadian Domestic Substances List (DSL)
AICS	Australia Inventory of Chemical Substances (AICS)
NZIoC	New Zealand. Inventory of Chemical Substances
ENCS	Japan. ENCS - Existing and New Chemical Substances Inventory
ISHL	Japan. ISHL - Inventory of Chemical Substances
KECI	Korea. Korean Existing Chemicals Inventory (KECI)
PICCS	Philippines Inventory of Chemicals and Chemical Substances

	(PICCS)
IECSC	China. Inventory of Existing Chemical Substances in China (IECSC)
TCSI	Taiwan Chemical Substance Inventory (TCSI)
TSCA	United States TSCA Inventory

Further information

Revision Date	04/30/2019

The information in this material safety data sheet should be provided to all who will use, handle, store, transport or otherwise be exposed to this product. The user must determine the appropriate measures that need to be implemented for the use and handling of this product in the c ontext of the user's operations and use of this product. The information contained herein supersedes all previously issued bulletins on the subject matter covered. If the date on this document is more than three years old,call to make certain that this sheet is current. No warranty is made as to the product's merchantability or fitness for any particular purpose, or that any suggested use will not infringe any patent. User must determine for himself, by preliminary tests or otherwise, the suitability of this product for his purposes, including mixing with other products. Nothing contained herein shall be construed as granting or extending any license under any patent.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.