

G.J. CHEMICAL COMPANY, INC. SAFETY DATA SHEET

1. PRODUCT IDENTIFIER

1.1 PRODUCT NAME:-----> **AMINOETHYLPIPERAZINE**

PRODUCT NUMBER(S):-----> 105000

TRADE NAMES/SYNONYMS:--> 1-(2-Aminoethyl-)piperazine, 2-Piperazin-1-ylethylamine, AEP

CAS-No: 140-31-8

CHEMICAL FAMILY: Aliphatic Amine

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST

RECOMMENDED USE: Epoxy/PU curing, Gas sweetening, Curing Agent for Epoxy Resin, Intermediate, Monomer in polymer manufacturing of polyamides.

USES ADVISED AGAINST: No information available

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Company: **G.J. CHEMICAL CO., INC.**

Address: **40 VERONICA AVENUE
SOMERSET, NJ 08873**

Telephone: **1-973-589-1450**

Fax: **1-973-589-3072**

1.4 Emergency Telephone Number

Emergency Phone: **1-800-424-9300 (CHEMTREC)**

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29CFR 1910 (OSHA HCS)

Flammable liquids (Category 4), H227

Acute toxicity, Oral (Category 5), H303

Acute toxicity, Dermal (Category 3), H311

Skin corrosion (Category 1B), H314

Serious eye damage (Category 1), H318

Skin sensitization (Category 1), H317

Acute aquatic toxicity (Category 3), H402

Chronic aquatic toxicity (Category 3), H412

2.2 GHS Label elements, including precautionary statements



Pictogram

GHS06

GHS05

Signal word **DANGER**

Hazard statement(s)

H227 Combustible liquid

H303 May be harmful if swallowed.

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

H402 Harmful to aquatic life

H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing should 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 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/ physician.

P322 Specific measures (see supplemental first aid instructions on this label).

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

P361 Remove/ Take off immediately all contaminated clothing.

P363 Wash contaminated clothing before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

Storage:

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. INGREDIENTS

3.1 SUBSTANCE:

Ingredient	CAS No.	% by WT. Range	CLASSIFICATION
Aminoethylpiperazine EC-No.205-411-0 Index-No.612-105-00-4 Reg.-No. 01-2119471486-30-XXXX	140-31-8	100	Flammable liquids (Category 4), H227 Acute toxicity, Oral (Category 5), H303 Acute toxicity, Dermal (Category 3), H311 Skin corrosion (Category 1B), H314 Serious eye damage (Category 1), H318 Skin sensitization (Category 1), H317 Acute aquatic toxicity (Category 3), H402 Chronic aquatic toxicity (Category 3), H412

3.2 MIXTURE: Not applicable.

4. FIRST-AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

INHALATION: AMINOETHYLPIPERAZINE

****FIRST AID- Remove from exposure area to fresh air immediately. If breathing has stopped, perform artificial respiration. If breathing is difficult if necessary give oxygen. Keep person warm and at rest. Treat symptomatically and supportively. Get medical attention immediately.**

SKIN CONTACT: AMINOETHYLPIPERAZINE

****FIRST AID- Immediately remove contaminated clothing. Use a safety shower flush skin thoroughly for 15 minutes. Wash affected**

area with soap and water. For chemical burns cover area with sterile, dry dressing bandage securely, but not too tight. Consult a physician if irritation persists.

EYE CONTACT: AMINOIETHYLPIPERAZINE

****FIRST AID- Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains (approximately 15-20 minutes). Remove contact lenses, if worn, after initial flush. Do not attempt to neutralize with chemical agents. Get medical attention immediately.**

INGESTION: AMINOIETHYLPIPERAZINE

****FIRST AID- Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.**

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED INGESTION:

Eye: Corrosive with symptoms of burning, redness, pain, blurred vision, and edema.

Skin: Corrosive with symptoms of burning, scarring, and reddening;

Inhalation: Severe irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma.

Ingestion: Toxic with severe irritation, nausea, vomiting, abdominal spasms, and restlessness.

Chronic:

Eye: Repeated or prolonged exposure may result in conjunctivitis:

Skin: Repeated or prolonged exposure may result in dermatitis:

Inhalation: May cause ulcerative changes in the mouth and gastrointestinal disturbances. May sensitize the immune system.

Ingestion: Prolonged and repeated exposure may damage the liver and kidneys.

Medical Conditions Aggravated by Exposure: Skin contact may aggravate an existing dermatitis. Inhalation may aggravate asthma and other pulmonary diseases.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Specific details on antidote: No recommendation given.

Note to Physician: Lung damage may be evidenced by shortness of breath, especially on exertion, and may be accompanied by chronic cough. Skin sensitization may be evidenced by rashes, especially hives.

5. FIRE FIGHTING MEASURES

Flash Point: 92°C (198°F) Closed Cup
Auto-ignition Temp: > 300 °C (> 572 °F)

LEL %:1.1 (V)
UEL %:9.4 (V)

5.1 SUITABLE EXTINGUISHING MEDIA: Foam--> x CO2--> x Dry Chemical-->
x Water-fog--> x Other-->

Unsuitable extinguishing media: Do not use waterjet.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Keep containers tightly closed. Combustible liquid; isolate from all sources of ignition. During a fire potentially toxic/irritating fumes from combustion/decomposition products may be generated.

CONDITIONS OF FLAMMABILITY: Flammable in the presence of a source of ignition when the temperature is above the flash point.

HAZARDOUS COMBUSTION PRODUCTS: Highly dependent on combustion conditions. A complex mixture of airborne solids, liquids, and gases including carbon monoxide, carbon dioxide, carbon oxides, nitrogen oxides and other unidentified organic compounds evolve when this material undergoes combustion.

5.3 ADVICE FOR FIREFIGHTERS: Shut off source. Isolate hazard area and deny entry. Move container from fire area if you can do it without risk. Water fog may be used to cool closed containers to prevent pressure build up and possible auto-ignition or explosion when exposed to extreme heat. Cool containers with water-fog from as far a distance as possible. Water-fog may cause frothing, which can be violent, if sprayed into containers of hot or burning liquid. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Wear NIOSH/MSHA approved self-contained breathing apparatus (SCBA) for confined spaces and where there is exposure to vapors. Use full fire-fighting protective clothing. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES: Combustible; Eliminate ignition sources in the vicinity of the spill or released vapor. Immediately evacuate all nonessential people. Verify that responders are properly trained and wearing appropriate respiratory equipment and fire resistant protective clothing during cleanup operations. Beware of

vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2 ENVIRONMENTAL PRECAUTIONS:

Keep out of water sources, drains and sewers. Do not flush into surface water or sanitary sewer system

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

Methods for cleanup and containment:

Use explosion proof equipment. Shut off valves, contain spill, for small spills add non-flammable absorbent in spill area. For large spills use foam on spill to minimize vapors clean up by vacuuming then using non-flammable absorbent.

Methods for disposal:

Place all saturated absorbent, using non-sparking tools, in an approved container for disposal. Minimize breathing vapors and skin contact, ventilate confined areas, open all windows and doors, assure conformity with applicable government regulations. Neutralize the residue with a dilute solution of Acetic Acid.

6.4 REFERENCE TO OTHER SECTIONS: See Sections 8 and 13.

7. HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING: This material presents a fire hazard. Invisible vapor spreads easily and can be set on fire by many sources, such as pilot lights, welding equipment, and electrical motors and switches. Vapor is heavier than air and can travel considerable distance to a source of ignition and flash back. Avoid breathing vapors in top of shipping container. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid work practices that may release volatile components in the atmosphere. Avoid contaminating soil or releasing material into sewage and drainage systems. Use non-sparking tools to open or close containers.

Advice on general occupational hygiene:

Wash hands before breaks and after work. Keep away from food, drink and animal feeding stuffs. When using do not smoke.

STATIC HAZARD: Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary but may not be sufficient. For more information refer to OSHA Standard 29CFR 1910.106 “Flammable and Combustible Liquids” and National Fire Protection Association (NFPA 77) “Recommended Practice on Static Electricity”.

7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES:

Follow maximum allowed pile heights specified in the BOCA codes or the NFPA manual. Local fire authorities should be notified for storage of this material in any quantity. Local permits are required for storage in warehouse quantities. Recommended storage temperature: 15 - 25°C. Store large quantities only in cool, dry areas in buildings designed to comply with OSHA 1910.106. Keep containers tight and upright to prevent leakage. Do not contact with oxidizing materials. Keep containers closed when not in use. Do not take internally. Store away from incompatible materials. Do not store in direct sunlight.

CONTAINER WARNINGS: Containers should be Bonded and Grounded when pouring. Avoid free fall of liquid in excess of a few inches. Empty containers release residue and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, or expose such containers to heat, sparks, static electricity or other sources of ignition. Do not attempt to clean. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner.

7.3 SPECIFIC END USES: Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

8. EXPOSURE CONTROL (PERSONAL PROTECTION)

8.1 CONTROL PARAMETERS:

Ingredient	CAS No.	% by WT. Range	Exposure Limits
Aminoethylpiperazine	140-31-8 EC-No.205-411-0 Index-No.612-105-00-4 Reg.-No. 01-2119471486-30-XXXX	100%	N.E.

Key: (PEL) = Permissible Exposure Limit OSHA
(TLV) = Threshold Limit Value OSHA & ACGIH
(STEL) = Short Term Exposure Limit ACGIH
(WEEL) = USA. Workplace Environmental Exposure Levels
(TWA) = Time Weighted Average
CAS = Chemical Abstracts Registry Number
IDLH = Immediate Danger to Life and Health
N.E. =None Established

8.2 EXPOSURE CONTROLS

EXPOSURE GUIDELINES: Consider the potential hazards of this material (Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent

exposure to harmful levels of this material, the personal protective equipment listed below is recommended.

ENGINEERING CONTROLS: Provide general dilution or local exhaust ventilation in volume and pattern to keep concentrations within permitted exposure limits. All areas should be ventilated in accordance with OSHA Regulation 29 CFR Part 1910. Explosion proof motors should be used in mechanical ventilation.

RESPIRATORY PROTECTION: The specific respirator selected must be based on contamination levels found in the work place, must not exceed the working limits of the respirator and be jointly approved by the National Institute for Occupational Safety and Health and the Mine Safety and Health Administration (NIOSH-MSHA): For known vapor concentrations use a NIOSH/MSHA air purifying respirator with full face-piece and organic vapor cartridge for exposures >1 <10 times ACGIH TWA. For exposures greater than 10 times ACGIH TWA or for unknown vapor concentrations use positive pressure self contained breathing apparatus with full face-piece.

BODY CLOTHING: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged contact with this substance. Use chemical resistant apron or other impervious clothing. Remove and wash contaminated clothing before reuse.

SKIN PROTECTION: Employee must wear appropriate protective gloves to prevent contact with this substance.

Full contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

HYGIENE: Use good personal hygiene practices, wash hands before eating, drinking, smoking or using toilet facilities.

EYE/FACE PROTECTION: Use safety eyewear with splash-guards or face shield. Contact lenses should not be worn.

Emergency shower and eyewash should be easily accessible to the work area.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Aminoethylpiperazine 140-31-8

Appearance-----> Mobile liquid

Color-----> Colorless

Odor-----> Ammonia –like odor

Odor Threshold----- > No data available

pH-----> No data available

Molecular Weight-----> 129.2amu

Melting/Freezing Point-----> -19 °C (-2 °F)
Boiling Range -----> 218 - 222°C (424 - 432°F)
Specific Gravity-----> 0.985 @25°C
Vapor Pressure-----> 0.04 mmHg@20°C (68°F)
Vapor Density (air=1)-----> 5.18
Water Solubility-----> Soluble
Partition Coefficient n-Octanol/Water-> log Pow -1.48 @20°C (68°F)
Evaporation Rate (Butyl Acetate=1)----> <0.01
Flash Point-----> 92°C (198°F) - closed cup
Upper Flammability Limit-----> 9.4% (V)
Lower Flammability Limit-----> 1.1% (V)
Auto-Ignition Temperature-----> > 300°C (> 572°F)
Decomposition Temperature-----> No data available
Viscosity-----> No data available
Explosive Properties-----> No data available
Oxidizing Properties-----> No data available

9.2 Other Information-----> No data Available

10. STABILITY AND REACTIVITY INFORMATION

10.1 REACTIVITY: No data available.

10.2 CHEMICAL STABILITY: Unstable () Stable (X)

10.3 POSSIBILITY OF HAZARDOUS REACTIONS: No data available.

HAZARDOUS POLYMERIZATION: May occur () Will not occur (X)

10.4 CONDITIONS TO AVOID: --> Heat, Sparks, Pilot Lights, Static Electricity, and Open Flame.

10.5 INCOMPATIBLE MATERIALS --> Acids, Acrylic Acid, Oxidizers, Aldehydes.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS: Fumes, Smoke, Carbon Monoxide, Carbon Dioxide, oxides of Nitrogen.

11. TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Routes of Entry: Inhalation--> x Skin--> x Ingestion--> x

ACUTE HEALTH EFFECTS:

Effects of overexposure:

Eye> Corrosive with symptoms of burning, redness, pain, blurred vision, and edema.

Skin> Corrosive with symptoms of burning, scarring, and reddening;

Inhalation> Severe irritation of the respiratory tract or acute nervous system depression characterized by headache, dizziness, staggering gait, confusion, unconsciousness or coma.

Ingestion> Toxic with severe irritation, nausea, vomiting, abdominal spasms, and restlessness.

Chronic:

Eye> Repeated or prolonged exposure may result in conjunctivitis:

Skin> Repeated or prolonged exposure may result in dermatitis:

Inhalation> May cause ulcerative changes in the mouth and gastrointestinal disturbances. May sensitize the immune system.

Ingestion> Prolonged and repeated exposure may damage the liver and kidneys.

Medical Conditions Aggravated by Exposure> Skin contact may aggravate an existing dermatitis. Inhalation may aggravate asthma and other pulmonary diseases.

ACUTE TOXICITY:

The effects of overexposure shown in Section III are based on acute animal toxicity profiles. Typical values are:

Ingredient	 Oral LD50 (Rat)	 Skin LD50 (Rabbit)	 Inhalation LC50	
Aminoethyl-piperazine	 2097mg/kg	 866mg/kg	 	

SKIN CORROSION/IRRITATION: Skin - Rabbit Result: Corrosive - 4 h

SERIOUS EYE DAMAGE/EYE IRRITATION: Eyes - Rabbit Result: Risk of serious damage to eyes.

RESPIRATORY OR SKIN SENSITIZATION: Maximization Test - Guinea pig Result: May cause sensitization by skin contact. (OECD Test Guideline 406)

MUTAGENIC EFFECTS: Hamster ovary Result: negative; Mouse - male and female Result: negative

CARCINOGEN STATUS:

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

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.

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

REPRODUCTIVE TOXICITY: Limited data suggests that aminoethylpiperazine is genotoxic. Rat – Oral Paternal Effects: Spermatogenesis (including genetic material, sperm morphology, motility, and count).

Specific target organ toxicity (STOT-SE) - single exposure (Globally Harmonized System): no data available

Specific target organ toxicity (STOT-RE) - repeated exposure (Globally Harmonized System): no data available

ASPIRATION HAZARD: No data available

11.2 ADDITIONAL INFORMATION:

RTECS: TK8050000

12. ECOLOGICAL INFORMATION

DANGEROUS TO AQUATIC LIFE IN HIGH CONCENTRATIONS

May be dangerous if it enters water intakes.

Notify local health and pollution control officials.

Notify operators of nearby water intakes.

AQUATIC TOXICITY:

Toxicity to fish:

LC50 - *Oncorhynchus mykiss* (rainbow trout) - 100.0 mg/l - 96.0 h

LC50 - *Pimephales promelas* (fathead minnow) - ca. 2,190 mg/l – 96h

Toxicity to daphnia and other aquatic invertebrates:

EC50 - *Daphnia magna* (Water flea) - 58 mg/l - 48 h

Toxicity to algae:

EC50 - *Pseudokirchneriella subcapitata* (green algae) - 495 mg/l - 72 h

12.2 PERSISTANCE AND DEGRADABILITY: Aerobic - Exposure time 28 d

Result: 0 % - Not readily biodegradable. (OECD Test Guideline 301F)

12.3 BIOACCUMULATIVE POTENTIAL:

No data available

Bio-concentration Factor (BCF): No data available.

12.4 MOBILITY IN SOIL: No data available.

12.5 RESULTS OF PBT AND vPvB:

PBT assessment results: This substance is not classified as PBT or vPvB.

12.6 OTHER ADVERSE EFFECTS: Harmful to aquatic life with long lasting effects

13. DISPOSAL CONSIDERATIONS

13.1 WASTE TREATMENT METHODS: Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly it is the responsibility of the user to determine the proper storage, transportation, treatment, and or disposal methodologies for spent materials and residues at time of disposition. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Dispose in accordance with all applicable disposal regulations. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

CONTAMINATED PACKAGING: Dispose of as unused product

The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

RCRA: The unused product is a RCRA hazardous waste if discarded. The RCRA ID number is: D001

If the waste is a spent solvent, the appropriate spent solvent code should be used.

DISPOSAL MUST BE IN ACCORDANCE WITH STANDARDS APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 48 CFR 262

14. TRANSPORT INFORMATION

Land Transport (DOT)

14.1 USDOT ID Number-----> UN2815

14.2 USDOT Shipping Name-----> N-Aminoethylpiperazine

14.3 USDOT Hazard Classification-----> 8 (Corrosive Liquid)

USDOT Label Codes-----> 8

14.4 USDOT Package Code-----> III
14.5 Environmental hazard-----> None
14.6 Special precautions for user-----> Yes
Emergency Response Guide-----> 153

Sea Transport (IMDG)

14.1 ID Number-----> UN2815
14.2 Proper shipping name-----> N-AMINOETHYLPIPERAZINE
14.3 Hazard Classification-----> 8 (Corrosive Liquid)
Label Codes-----> 8
14.4 Package Code-----> III
14.5 Marine Pollutant-----> No
14.6 Special precautions for user-----> Yes
EMS-Number-----> F-A, S-B

Air Transport (IATA)

14.1 ID Number-----> UN2815
14.2 Proper shipping name-----> N-Aminoethylpiperazine
14.3 Hazard Classification-----> 8, 6.1 (Corrosive Liquid, Poison)
Label Codes-----> 8, 6.1
14.4 Package Code-----> III
14.5 Environmental hazard-----> None
14.6 Special precautions for user-----> Yes

15. REGULATORY INFORMATION

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

SARA TITLE III (Superfund Amendment and Reauthorization Act)

SECTION 302 AND 304: Extremely Hazardous Substance List (40 CFR 355) - Not Listed

SECTION 313: Toxic Chemicals Listing (40 CFR 372.65) - Not Listed

SECTION 311/312: Hazard Categorization (40 CFR 370) - Acute Health Hazard, Fire Hazard

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)

SECTION 102(A) Hazardous Substances (40 CFR 302.4) - Not Listed

Reportable Quantity - None

SECTION 101(14) Reportable Quantity: None

Massachusetts Right to Know Components
2-Piperazin-1-ylethylamine CAS-No.140-31-8

Pennsylvania Right to Know Components
2-Piperazin-1-ylethylamine CAS-No.140-31-8

New Jersey Right to Know Components
2-Piperazin-1-ylethylamine CAS-No.140-31-8

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

TSCA (Toxic Substance Control Act)
2-Piperazin-1-ylethylamine CAS-No.140-31-8 is listed on the TSCA Inventory.

International Inventories:

<u>Country or Region</u>	<u>Inventory Name</u>	<u>On inventory yes/no</u>
<u>Australia</u>	Australian Inventory of Chemical Substances (AICS)	Yes
<u>Canada</u>	Domestic Substances List (DSL)	Yes
<u>Canada</u>	Non-Domestic Substances List (NDSL)	No
<u>China</u>	Inventory of Existing Chemical Substances in China (IECSC)	Yes
<u>Europe</u>	European Inventory of Existing Commercial Chemicals Substances (EINECS)	Yes
<u>Europe</u>	European List of Notified Chemical Substances (ELINCS)	No
<u>Japan</u>	Inventory of Existing and New Chemical Substances (ENCS)	Yes
<u>Japan</u>	Industrial Safety & Health Law Inventory (ISHL)	Yes
<u>Korea</u>	Existing Chemicals List (ECL)	Yes
<u>Mexico</u>	National Inventory of Chemical Substances (INSQ)	Yes
<u>New Zealand</u>	New Zealand Inventory	Yes
<u>Philippines</u>	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
<u>Switzerland</u>	Inventory of Notified New Substances (CHINV)	Yes
<u>Taiwan</u>	National Existing Chemical Inventory (NECI)	Yes
<u>United States & Puerto Rico</u>	Toxic Substances Control Act Inventory	Yes

15.2 CHEMICAL SAFETY ASSESSMENT: A chemical safety assessment has been carried out for this substance.

16. OTHER INFORMATION:

HMIS (Hazardous Materials Identification System)

Hazard Rating:

- 4-Extreme**
- 3-High**
- 2-Moderate**
- 1-Slight**
- 0-Insignificant**

NFPA RATINGS (SCALE 0-4): Health=3 Fire=2 Reactivity=0
HMIS RATINGS (SCALE 0-4): Health=3 Fire=2 Reactivity=0 PPE=X

Hazard statement(s) from Section 2 and 3:

- H227 Combustible liquid**
- H303 May be harmful if swallowed.**
- 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**
- H402 Harmful to aquatic life**
- H412 Harmful to aquatic life with long lasting effects.**

Date of preparation-----> February 23, 2000

Revision Number-----> 1.6

Revision Content-----> Updated sections 1, 3, 5, and 8.

Revision Date-----> December 21, 2018

Prepared by-----> T.G. Fenstermaker Jr.

Acronyms:

- ACGIH - American Conference of Governmental Industrial Hygenists
- AIHA - American Industrial Hygiene Association
- ANSI - American Nation Standards Institute
- API - American Petroleum Institute
- CERCLA - Comprehensive Emergency Response, Compensation, and Liability Act
- DOT - U.S. Department of Transportation
- EPA - U.S. Environmental Protection Agency
- HMIS - Hazardous Materials Information System
- IARC - International Agency For Research On Cancer
- MSHA - Mine Safety and Health Administration
- NFPA - National Fire Protection Association
- NIOSH - National Institute of Occupational Safety and Health
- NOIC - Notice of Intended Change (Proposed change to ACGIH TLV)
- NTP - National Toxicology Program
- OPA - Oil Pollution Act of 1990
- OSHA - U.S. Occupational Safety & Health Administration
- PEL - Permissible Exposure Limit (OSHA)
- RCRA - Resource Conservation and Recovery Act
- REL - Recommended Exposure Limit (NIOSH)
- SARA - Superfund Amendments and Reauthorization Act of 1986 Title III
- SCBA - Self-Contained Breathing Apparatus

- STEL - Short-Term Exposure Limit (generally 15 minutes)
- TLV - Threshold Limit Value
- TSCA - Toxic Substances Control Act
- TWA - Time Weighted Average (8hr.)
- WHMIS - Canadian Workplace Hazardous Materials Information System

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