

# SAFETY DATA SHEET

Revision Date 25-Dec-2021

Revision Number 6

## 1. Identification

**Product Name** 1-(2-Aminoethyl)piperazine

**Cat No. :** AC400760000; AC400760025; AC400761000; AC400765000

**CAS No** 140-31-8  
**Synonyms** AEP

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

### Details of the supplier of the safety data sheet

#### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

Acros Organics  
One Reagent Lane  
Fair Lawn, NJ 07410

**Emergency Telephone Number** For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## 2. Hazard(s) identification

### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 3
Skin Corrosion/Irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Skin Sensitization	Category 1

### Label Elements

**Signal Word**  
Danger

**Hazard Statements**  
Combustible liquid  
Harmful if swallowed

Toxic in contact with skin  
Causes severe skin burns and eye damage  
May cause an allergic skin reaction



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Wear protective gloves/protective clothing/eye protection/face protection  
Do not breathe dust/fume/gas/mist/vapors/spray  
Contaminated work clothing should not be allowed out of the workplace  
Keep away from heat/sparks/open flames/hot surfaces. - No smoking

#### Response

Immediately call a POISON CENTER or doctor/physician

#### Inhalation

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

#### Skin

Wash contaminated clothing before reuse  
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
If skin irritation or rash occurs: Get medical advice/attention

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

#### Ingestion

Rinse mouth  
Do NOT induce vomiting

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store locked up  
Store in a well-ventilated place. Keep cool

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

Harmful to aquatic life with long lasting effects

## 3. Composition/Information on Ingredients

Component	CAS No	Weight %
1-(2-Aminoethyl)piperazine	140-31-8	>95

## 4. First-aid measures

#### Eye Contact

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

#### Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

#### Inhalation

Remove from exposure, lie down. Remove to fresh air. If not breathing, give artificial

respiration. Immediate medical attention is required.

**Ingestion**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. If possible drink milk afterwards.

**Most important symptoms and effects**

Difficulty in breathing. Causes burns by all exposure routes. May cause allergic skin reaction. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician**

Treat symptomatically

## 5. Fire-fighting measures

**Suitable Extinguishing Media**

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam. Water mist may be used to cool closed containers.

**Unsuitable Extinguishing Media**

No information available

**Flash Point**

88 °C / 190.4 °F

**Method -**

No information available

**Autoignition Temperature**

315 °C / 599 °F

**Explosion Limits****Upper**

No data available

**Lower**

No data available

**Sensitivity to Mechanical Impact**

No information available

**Sensitivity to Static Discharge**

No information available

**Specific Hazards Arising from the Chemical**

Combustible material. Flammable. Containers may explode when heated.

**Hazardous Combustion Products**

Nitrogen oxides (NO<sub>x</sub>). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
3

**Flammability**  
2

**Instability**  
1

**Physical hazards**  
N/A

## 6. Accidental release measures

**Personal Precautions**

Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**

See Section 12 for additional Ecological Information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

**Methods for Containment and Clean Up**

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Do not let this chemical enter the environment. Remove all sources of ignition.

## 7. Handling and storage

**Handling**

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Handle

product only in closed system or provide appropriate exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition.

**Storage.**

Keep away from heat, sparks and flame. Corrosives area. Store under an inert atmosphere. Keep containers tightly closed in a dry, cool and well-ventilated place. Incompatible Materials. Acids. Aldehydes. copper. Halogenated compounds. Aluminium. Copper alloys.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Engineering Measures**

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

**Personal Protective Equipment****Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

Physical State	Liquid
Appearance	Light yellow
Odor	Ammonia-like
Odor Threshold	No information available
pH	12 - 100 g/L aq.sol
Melting Point/Range	-19 °C / -2.2 °F
Boiling Point/Range	218 - 222 °C / 424.4 - 431.6 °F
Flash Point	88 °C / 190.4 °F
Evaporation Rate	No information available
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	No data available
Lower	No data available
Vapor Pressure	0.1 hPa @ 20 °C
Vapor Density	No information available
Specific Gravity	0.980
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	315 °C / 599 °F
Decomposition Temperature	No information available
Viscosity	14 cP at 20 °C
Molecular Formula	C6 H15 N3
Molecular Weight	129.2

## 10. Stability and reactivity

**Reactive Hazard**

None known, based on information available

<b>Stability</b>	Hygroscopic, Air sensitive.
<b>Conditions to Avoid</b>	Excess heat. Exposure to air. Incompatible products. Exposure to moist air or water. Keep away from open flames, hot surfaces and sources of ignition.
<b>Incompatible Materials</b>	Acids, Aldehydes, copper, Halogenated compounds, Aluminium, Copper alloys
<b>Hazardous Decomposition Products</b>	Nitrogen oxides (NO <sub>x</sub> ), Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )
<b>Hazardous Polymerization</b>	Hazardous polymerization does not occur.
<b>Hazardous Reactions</b>	None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
1-(2-Aminoethyl)piperazine	LD50 = 2140 µL/kg ( Rat )	LD50 = 866 mg/kg ( Rabbit )	Not listed

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

<b>Irritation</b>	Causes burns by all exposure routes
<b>Sensitization</b>	May cause sensitization by skin contact
<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No	IARC	NTP	ACGIH	OSHA	Mexico
1-(2-Aminoethyl)piperazine	140-31-8	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** Not mutagenic in AMES Test

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

**Ecotoxicity**

Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1-(2-Aminoethyl)piperazine	EC50: = 495 mg/L, 72h (Pseudokirchneriella subcapitata)	LC50: > 1000 mg/L, 96h semi-static (Poecilia reticulata) LC50: >= 100 mg/L, 96h semi-static (Oncorhynchus mykiss) LC50: 1950 - 2460 mg/L, 96h flow-through (Pimephales promelas)	EC50 > 10000 mg/L 17 h	EC50: = 32 mg/L, 48h (Daphnia magna)

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

Component	log Pow
1-(2-Aminoethyl)piperazine	-1.48

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

**DOT**

UN-No UN2815  
 Proper Shipping Name N-AMINOETHYLPIPERAZINE  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**TDG**

UN-No UN2815  
 Proper Shipping Name N-AMINOETHYLPIPERAZINE  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**IATA**

UN-No UN2815  
 Proper Shipping Name N-AMINOETHYLPIPERAZINE  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

**IMDG/IMO**

UN-No UN2815  
 Proper Shipping Name N-AMINOETHYLPIPERAZINE  
 Hazard Class 8  
 Subsidiary Hazard Class 6.1  
 Packing Group III

### 15. Regulatory information

**United States of America Inventory**

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA Regulatory Flags
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1-(2-Aminoethyl)piperazine	140-31-8	X	ACTIVE	-
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**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
1-(2-Aminoethyl)piperazine	140-31-8	X	-	205-411-0	X	X	X	X	X	KE-28762

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations**

SARA 313 Not applicable

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

Clean Air Act Not applicable

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
1-(2-Aminoethyl)piperazine	X	X	X	-	-

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

**Authorisation/Restrictions according to EU REACH**

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)

1-(2-Aminoethyl)piperazine	-	Use restricted. See item 75. (see link for restriction details)	-
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<https://echa.europa.eu/substances-restricted-under-reach>

#### Safety, health and environmental regulations/legislation specific for the substance or mixture

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
1-(2-Aminoethyl)piperazine	140-31-8	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1-(2-Aminoethyl)piperazine	140-31-8	Not applicable	Not applicable	Not applicable	Not applicable

## 16. Other information

**Prepared By** Regulatory Affairs  
Thermo Fisher Scientific  
Email: EMSDS.RA@thermofisher.com

**Revision Date** 25-Dec-2021

**Print Date** 25-Dec-2021

**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

#### Disclaimer

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

**End of SDS**