

Safety Data Sheet

1. Chemical product and company identification

Product name : 2-Aminoethanol

SDS code : A9-18K

Company/undertaking identification :

HAYASHI PURE CHEMICAL IND.,LTD.

Address : 3-2-12 Uchihiranomachi, Chuo-ku, Osaka, Osaka, Japan

Telephone : 06-6910-7305

E-mail : shiyaku_kikaku@hpc-j.co.jp

URL : <https://www.hpc-j.co.jp/>

Emergency number : 06-6910-7305

Recommended use : For industrial use only.

Restrictions on use : Do not use on a human body or for animal medicines, foods, household products, cosmetics, etc.

2. Hazards identification

GHS classification

Physical hazards	Explosives	No classification
	Flammable gases	No classification
	Aerosol	No classification
	Oxidizing gases	No classification
	Gases under pressure	No classification
	Flammable liquids	Category 4
	Flammable solids	No classification
	Self-reactive substances and mixtures	No classification
	Pyrophoric liquids	No classification
	Pyrophoric solids	No classification
	Self-heating substances and mixtures	classification not possible
	Substances and mixtures which in contact with water emit flammable gases	No classification
	Oxidizing liquids	No classification
	Oxidizing solids	No classification
	Organic peroxides	No classification
	Corrosive to metals	classification not possible
	Desensitized explosives	classification not possible
Health hazards	Acute toxicity (oral)	No classification
	Acute toxicity (dermal)	Category 4
	Acute toxicity (inhalation:gas)	No classification
	Acute toxicity (inhalation:vapors)	classification not possible
	Acute toxicity (inhalation:dust/mist)	classification not possible
	Skin corrosion/irritation	Category 1A
	Serious eye damage/eye irritation	Category 1
	Respiratory sensitization	classification not possible
	Skin sensitization	Category 1
	Germ cell mutagenicity	classification not possible
	Carcinogenicity	classification not possible
	Reproductive toxicity	classification not possible
	Specific target organ toxicity (single exposure)	Category 1 (central nervous system, respiratory system, liver)

	Specific target organ toxicity (single exposure)	Category 3 (Narcosis)
	Specific target organ toxicity (repeated exposure)	Category 1 (central nervous system)
	Specific target organ toxicity (repeated exposure)	Category 2 (respiratory system)
	Aspiration hazard	classification not possible
Environmental hazards	Hazardous to the aquatic environment, short-term (acute)	Category 2
	Hazardous to the aquatic environment, long-term (chronic)	No classification
	Hazardous to the ozone layer	classification not possible
Hazard pictograms (GHS JP)	  	
	GHS05	GHS07
Signal word (GHS JP)	:	Danger
Hazard statements (GHS JP)	:	Combustible liquid (H227) Harmful in contact with skin (H312) Causes severe skin burns and eye damage (H314) May cause an allergic skin reaction (H317) May cause drowsiness or dizziness (H336) Causes damage to organs (central nervous system, respiratory system, liver) (H370) Causes damage to organs (central nervous system) through prolonged or repeated exposure (H372) May cause damage to organs (respiratory system) through prolonged or repeated exposure (H373) Toxic to aquatic life (H401)
Precautionary statements (GHS JP)	:	
Prevention	:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210) Do not breathe dust/fume/gas/mist/vapors/spray. (P260) Wash hands, forearms and face thoroughly after handling. (P264) Do not eat, drink or smoke when using this product. (P270) Use only outdoors or in a well-ventilated area. (P271) Contaminated work clothing should not be allowed out of the workplace. (P272) Avoid release to the environment. (P273) Wear protective gloves/protective clothing/eye protection/face protection. (P280)
Response	:	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. (P301+P330+P331) IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. (P303+P361+P353) IF INHALED: Remove person to fresh air and keep comfortable for breathing (P304+P340) IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. (P305+P351+P338) IF exposed or concerned: Call a POISON CENTER or doctor. (P308+P311) Immediately call a POISON CENTER or doctor. (P310) Get medical advice/attention if you feel unwell. (P314) If skin irritation or rash occurs: Get medical advice/attention. (P333+P313) Take off contaminated clothing and wash it before reuse. (P362+P364) In case of fire: Use specify appropriate media to extinguish. (P370+P378)
Storage	:	Store in a well-ventilated place. Keep container tightly closed. (P403+P233) Store locked up. (P405)
Disposal	:	Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. (P501)

3. Composition/information on ingredients

Distinction of substance or mixture : Substance
Synonyms : Monoethanolamine

Name	Concentration or Concentration range	Formula	Kanpo number		CAS RN
			CSCL no	ISHL no	
2-Aminoethanol	≥99.0%、≤100%	C ₂ H ₇ NO	(2)-301	Existing Chemical Substance	141-43-5
Diethanolamine (impurity)	<0.5%	C ₄ H ₁₁ NO ₂	(2)-302,(2)-354	Existing Chemical Substance	111-42-2

The above concentration or concentration range are not product specification.
All percentages listed in the above concentration or concentration range are wt%, unless otherwise specified.

4. First aid measures

First aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.
Get immediate medical advice/attention.

First-aid measures after skin contact : Remove/Take off immediately all contaminated clothing.
Gently wash with plenty of soap and water.
Get immediate medical advice/attention.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get immediate medical advice/attention.

First-aid measures after ingestion : Do NOT induce vomiting.
Rinse mouth.
Get immediate medical advice/attention.

5. Fire fighting measures

Suitable extinguishing media : Water spray, Alcohol-resistant foam, Dry powder, Carbon dioxide, Sand.

Unsuitable extinguishing media : Do not use a heavy water stream.

Explosion hazard : May induce explosion of containers by heating.

Hazardous decomposition products in case of fire : In case of fire, product may produce irritative or toxic fumes/gases.

Firefighting instructions : If ignited, for the initial fire-fighting, cut off combustion sources, extinguish fire at a stroke using appropriate fire-extinguishers.
In the case of peripheral fire, quickly remove movable containers to safe places.
If unable to be moved containers, sprinkle water to containers and surrounding equipment, etc. to cool.
Avoid (reject) fire-fighting water to enter environment.
Even after extinguishing fire, thoroughly cool containers by using plenty of water.

Protection during firefighting : Wear appropriate fire-resistant clothing including self contained-compressed air breathing apparatus.

6. Accidental release measures

Personal Precautions, Protective Equipment and Emergency Procedures

General measures : Before entering, ventilate the area.
Do not let unauthorized persons come close to the area.
Immediately place the leakage area in isolation, with taking proper distances for all directions.
Wear appropriate personal protective devices to prevent inhalation and contact with eye, skin, and clothing, and never attempt to work on the lee.

Environmental precautions

Environmental precautions : Avoid release to the environment.
Prevent entry to sewers and public waters.

Methods and Equipment for Containment and Cleaning up

- Methods for cleaning up : Clean up any spills as soon as possible, using an absorbent material to collect it.
Collect leaking and spilled liquid in sealable containers as far as possible.
Wash out the spilled area with large amounts of water.

7. Handling and storage**Handling**

- Technical measures : Work with appropriate personal protective equipment to prevent inhalation or contact to eyes, skin, and clothing.
Handle with care to prevent leakage, overflowing, or scattering, minimize generation of mist or vapor, and thoroughly ventilate.
- Precautions for safe handling : Do not eat, drink or smoke when using this product.
Thoroughly wash your hands and gargle after handling.
Ensure good ventilation of the work station.
Do not contact, breathe or swallow.
- Prevents handling of incompatible substances or mixtures : Avoid prolonged or repeated exposure.

Storage

- Storage conditions : Store locked up.
Store in a well-ventilated place, away from direct sunlight. Keep container tightly closed and keep away from fire and heat sources.
- Material used in packaging/containers : Light shielding airtight container.
- Technical measures : Comply with applicable regulations.
- Storage temperature : Cool and dark place

8. Exposure controls / Personal protection equipment

Component name	Administration level (MHLW)	Exposure limits (JSOH)	
		Standard Value	JSOH OEL C
2-Aminoethanol	-	7.5 mg/m ³ 3 ppm	-

Component name	Concentration standard value (MHLW)		
	OEL TWA	OEL STEL	OEL C
2-Aminoethanol	20 mg/m ³	-	-
Diethanolamine	1 mg/m ³	-	-

- Appropriate engineering controls : Cover up tightly the generation source at the handling place or install local exhaust equipment or overall ventilation equipment. Install safety showers and eye-fountains near a handling place. Clearly indicate the location.

Protective equipment

- Respiratory protection : Gas mask for organic gases
- Hand protection : Impervious protective gloves
- Eye protection : Protective glasses (general glasses, glasses with side-shields, goggles)
- Skin and body protection : Impervious aprons, Impervious work clothing, Impervious long boots

9. Physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid
- Color : colorless ~ pale yellow
- Odor : Ammonia odor
- pH : 9.4 (25% aqueous solution)
- Melting point : 10 °C
- Freezing point : No data available
- Boiling point : 171 °C

Flash point	: 85 °C (tag closed cup)
Auto-ignition temperature	: 410 °C
Decomposition temperature	: No data available
Flammability	: No data available
Vapor pressure	: 53 Pa (20°C)
Relative density	: No data available
Density	: 1.02 g/cm ³ (20°C)
Relative gas density	: No data available
Solubility	: Easily soluble in water. Easily soluble in alcohol. Slightly soluble in diethyl ether. Slightly soluble in benzene.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Explosive limits (Vol-%)	: 5.5 – 17 Vol-% (in air)
Viscosity, kinematic	: No data available
Particle characteristics	: No data available

10. Stability and reactivity

Reactivity	: No data available
Chemical stability	: Stable under normal handling conditions. Hygroscopicity. Absorbs acidic gases.
Possibility of hazardous reactions	: Reacts violently with strong acids and strong oxidizing agents. Reacts with nitrocellulose posing a risk of fire and explosion.
Conditions to avoid	: Sunlight, moisture, heat. Ignition sources such as spark, flame and static electricity. Avoid contact with strong oxidizing agents, strong acids, copper, iron, aluminium and their alloys, rubbers.
Incompatible materials	: Strong oxidizing agents, Strong acids, Copper, iron, aluminium and their alloys, Rubbers
Hazardous decomposition products	: Ammonia, Nitrogen oxides

11. Toxicological information

The information in this section is based on the "GHS Classification Results" by NITE.

2-Aminoethanol	
Acute toxicity (oral)	No classification
Acute toxicity (dermal)	Category 4
Acute toxicity (gas)	No classification
Acute toxicity (vapour)	classification not possible
Acute toxicity (inhalation:dust/mist)	classification not possible
Skin corrosion/irritation	Category 1A
Serious eye damage/irritation	Category 1
Respiratory sensitization	classification not possible
Skin sensitization	Category 1
Germ cell mutagenicity	classification not possible
Carcinogenicity	classification not possible
Reproductive toxicity	classification not possible
STOT-single exposure	Category 1 Category 3 (Narcosis)
STOT-repeated exposure	Category 1 Category 2
Aspiration hazard	classification not possible
Diethanolamine	
Acute toxicity (oral)	No classification
Acute toxicity (dermal)	No classification
Acute toxicity (gas)	No classification
Acute toxicity (vapour)	classification not possible
Acute toxicity (inhalation:dust/mist)	classification not possible
Skin corrosion/irritation	Category 2
Serious eye damage/irritation	Category 1
Respiratory sensitization	classification not possible

Diethanolamine	
Skin sensitization	Category 1A
Germ cell mutagenicity	No classification
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
STOT-single exposure	Category 1 Category 2
STOT-repeated exposure	Category 1 Category 2
Aspiration hazard	classification not possible

12. Ecological information

The information in this section is based on the "GHS Classification Results" by NITE.

2-Aminoethanol	
Hazardous to Aquatic Environment - Acute Hazard	Category 2
Hazardous to Aquatic Environment - Chronic Hazard	No classification
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Hazardous to the ozone layer	No data available
Diethanolamine	
Hazardous to Aquatic Environment - Acute Hazard	Category 2
Hazardous to Aquatic Environment - Chronic Hazard	Category 3
Persistence and degradability	No data available
Bioaccumulative potential	No data available
Mobility in soil	No data available
Hazardous to the ozone layer	classification not possible

13. Disposal considerations

- Ecology - waste materials : With the detail information of the waste, subcontract its disposal to a waste disposer authorized by a Prefectural Governor.
- Contaminated container and packaging : Empty the packaging completely prior to disposal.
Empty containers should be taken for recycle, recovery or waste in accordance with local regulation.

14. Transport information

International Regulations

Transport by sea(IMDG)

- UN-No. (IMDG) : 2491
- Proper Shipping Name (IMDG) : ETHANOLAMINE
- Packing group (IMDG) : III
- Transport hazard class(es) (IMDG) : 8
- Hazard labels (IMDG) : 8
- Class (IMDG) : 8
- Special provision (IMDG) : 223
- Packing instructions (IMDG) : P001, LP01
- IBC packing instructions (IMDG) : IBC03
- Tank instructions (IMDG) : T4
- Tank special provisions (IMDG) : TP1
- Stowage category (IMDG) : A
- Properties and observations (IMDG) : Colorless. Miscible with water. Corrosive to copper, copper compounds, copper alloys and rubber. Reacts violently with acids.
Liquid and vapor cause burns to skin, eyes and mucous membranes.
- MFAG-No : 153

Air transport(IATA)

UN-No. (IATA)	: 2491
Proper Shipping Name (IATA)	: Ethanolamine
Packing group (IATA)	: III
Transport hazard class(es) (IATA)	: 8
Hazard labels (IATA)	: 8
Class (IATA)	: 8
PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y841
PCA limited quantity max net quantity (IATA)	: 1L
PCA packing instructions (IATA)	: 852
PCA max net quantity (IATA)	: 5L
CAO packing instructions (IATA)	: 856
CAO max net quantity (IATA)	: 60L
Special provision (IATA)	: A3, A803
ERG code (IATA)	: 8L

Marine pollutant : Not applicable

Regulations in Japan

Regulatory information by sea	: Conform to the provisions of the Ship Safety Law.
Regulatory information by air	: Conform to the provisions of the Civil Aeronautics Law.
MFAG-No	: 153

Special transport precautions : When transporting, load containers so that they do not tip over, damage, drop or collapse. Make sure there is no leak in containers.

15. Regulatory information**National law**

Chemical Substances Control Law	: Priority Assessment Chemical Substances (Law Article 2, Para.5)
Industrial Safety and Health Law	: Dangerous or Harmful Substances for Labeling of Chemical Name etc. (Act Art.57 Para.1, Enforcement Order, Art.18) Dangerous or Harmful Substances for Notification of Chemical Name etc. on SDS (Act, Art.57-2 Para.1, Enforcement Order, Art.18-2) Diethanolamine; 2,2'-Iminodiethanol 2-Aminoethanol Concentration standard value setting substances (Ordinance on Industrial Safety and Health, Article 577-2, Para.2, Public Notice No. 177 of April 27, 2023, Public Notice No. 24 of April 27, 2023) Chemical substances that damage the skin, etc. Harmful substances that cause skin irritation (Ordinance on Industrial Safety and Health, Article 594-2, Para.1, list of substances applicable to No. 0704 Item 1, 5 based on July 4, 2023)
Japanese Poisonous and Deleterious Substances Control Law	: Deleterious Substances (Designated Order Art.2) 2-Aminoethanol and preparations containing it (except for preparations which contain 20% or less of 2-aminoethanol)
Fire Service Law	: Group 4 - Flammable liquids - 3rd Class petroleums - soluble (Law Art.2 Para.7, Attached Table 1, Group 4)
Air Pollution Control Law	: Volatile Organic Compounds (Law Art.2 Para.4) (MOE Official Notice to Prefectures) Volatile organic compounds (Article 2, Paragraph 4 of the Act) (2002 VOC emission survey report)
Law Relating to Prevention of Marine Pollution and Maritime Disasters	: Noxious Liquid Substances - Category Y (Law Art.3(3), Enforcement Order, Art.1-2, Attached Table No.1 Item 2)
Foreign Exchange and Foreign Trade Control Act	: Export Trade Control Ordinance appendix 1-16
Ship Safety Act	: Corrosive substances (Dangerous Goods Notification Schedule first second and third Article Dangerous Goods Regulations)
Civil Aeronautics Law	: Corrosive substances (Hazardous materials notice Appended Table 1 Article 194 of the Enforcement Regulations)
Port Regulation Law	: Corrosive substances (Article 21, Paragraph 2 of Law, Article 12 rule, notice attached table that defines the type of dangerous goods)
Road Act	: Restriction for Vehicle Traffic (Enforcement Order Art.19-13, Publication of Japan Highway Public Corp.)
Waste Management on Public Cleansing Law	: Specially Controlled Industrial Wastes (Act Art.2, para 5, Enforcement Order Art.2-4)

Japanese Pollutant Release and Transfer Register Law (PRTR Law) : Class 1 Designated Chemical Substances (Act Art.2 para.2, Enforcement Order Art.1 Appended Table No.1)
2-Aminoethanol (100%)

16. Other information

Data sources : Handbook of 17726 Chemical Products, The Chemical Daily Co, Ltd.
International Chemical Safety Cards.
National Institute of Technology and Evaluation (NITE).
2024 Emergency Response Guidebook (ERG 2024).

Other information : The SDS is copyrighted material of Hayashi Pure Chemical Ind, Ltd.
This Safety Data Sheet is intended to be provided for business operators who handle chemical substance products of the relevant product and is not intended to assure safety in any way. The Safety Data Sheet does not verify all the information on the applicable chemical substance in the present time. With the recognition in that unknown danger constantly exists in the relevant chemical substance, the product shall be used in the principle of self-responsibility of the user with the highest priority to safety from transport and unpacking to disposal. When the relevant chemical substance is used, the user him/herself shall collect safety information and shall investigate laws and regulations at the place, organizations, countries, etc. where the substance is actually used and give the highest priority to them. The Company shall take no responsibility for investigating state and local regulations and the user shall handle this problem on his/her own responsibility. In the event that SDS in Japanese and SDS translated into other languages exist, the document described in Japanese is prior to all other documents whether or not there is any difference in contents, and documents in other languages shall be references.