



## 2-(Aminomethyl)piperidine

### Safety Data Sheet

According to the federal final rule of hazard communication revised on 2012 (HazCom 2012)

Date of Compilation : February 14, 2005

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## 2-(Aminomethyl)piperidine

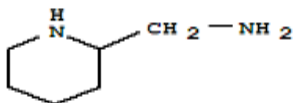
### Safety Data Sheet

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#### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/ MIXTURE AND OF THE COMPANY/ UNDERTAKING

##### 1.1 Product identifier

PRODUCT NAME : 2-(Aminomethyl) piperidine  
 CAS RN : 22990-77-8  
 EC# : 245-371-1  
 SYNONYMS : Piperidine, 2-(aminomethyl), Piperidine-2-methylamine  
 SYSTEMATIC NAME : 2-(Aminomethyl)Piperidine  
 MOLECULAR FORMULA : C<sub>6</sub>H<sub>14</sub>N<sub>2</sub>  
 STRUCTURAL FORMULA:



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

###### 1.2.1 Relevant identified uses

2-(Aminomethyl)piperidine is used as a simple piperidine & useful synthetic reagent.

**Uses advised against:** None

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

**Jubilant Ingrevia Limited**

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##### 1.4 Emergency telephone number

For Chemical Emergency ONLY (in the case of fire, leak, spill, exposure or accident) Call

Chemtrec: 1-800-424-9300 (US), 1-703-527-3887 (Outside U.S.)

Chemtrec (India) : 000-800-100-7141

For ALL other emergencies call Emergency Control Room Gajraula at 99970 22412

#### SECTION 2: HAZARD(S) IDENTIFICATION

##### 2.1 Classification of the substance or mixture

###### GHS US CLASSIFICATION

Acute toxicity, oral(Category 4)  
 Skin corrosion / irritant: Category 1A

H302  
 H314

Harmful if swallowed.  
 Causes severe skin burns and eye damage

##### 2.2 Label Elements

**Hazard Pictogram:** GHS 05, GHS07



**Signal Word:** Danger!

###### HAZARD AND PRECAUTIONARY STATEMENTS: HAZARD STATEMENTS

Jubilant Ingrevia Limited



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- H302: Harmful if swallowed.
- H314: Causes severe skin burns and eye damage.

### **PRECAUTIONARY STATEMENTS**

- P260: Do not breathe dust/fume/gas/mist/vapours/spray.
- P264: Wash hand thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- H301+H312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
- H330: Rinse mouth.
- P280: Wear protective gloves/protective clothing/eye protection/face protection.
- P304+340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- 
- P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
- P303+361+353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P310: Immediately call a POISON CENTER or doctor/physician.
- P305+351+338: IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.
- P363: Wash contaminated clothing before reuse.
- P405: Store locked up.
- P501: Dispose of contents/container to local/regional/national/international regulations.

### **SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical	CAS #	EC#	Purity	GHS US CLASSIFICATION
2-(Aminomethyl)piperidine	22990-77-8	245-371-1	>99.00%	Acute toxicity, oral(Category 4) Skin corrosion / irritant: Category 1A

### **SECTION 4: FIRST AID MEASURES**

#### **4.1 Description of first aid measures**

- **Eyes:** If in eyes rinse cautiously with water for at least 15 minutes. Remove contact lenses if easy to do so. Continue rinsing. Seek medical attention.
- **Skin:** Immediately take off all contaminated clothing. Wash thoroughly with water for at least 15 minutes. Wash contaminated clothes before reuse. Seek immediate medical attention.
- **Inhalation:** Remove to fresh air and keep at rest in a position comfortable for breathing. Call a physician if you feel unwell.
- **Ingestion:** If swallowed call a poison center if you feel unwell. Rinse mouth. Do NOT induce vomiting by use of emetics. Seek medical attention

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

##### **Key symptoms**

##### **Acute effects**

- It is harmful if swallowed and causes severe skin burns and eye damage.

##### **Chronic effects**

- To the best of our knowledge, the chronic health effects of this product have not been fully investigated.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

- Treat symptomatically.

### **SECTION 5: FIRE-FIGHTING MEASURES**

#### **5.1 Extinguishing media**

- *Suitable extinguishing media:* Alcohol-resistant foam, dry chemical or carbon dioxide.
- *Unsuitable extinguishing media:* No data

#### **5.2. Special Protective Equipment and Precautions for Fire Fighter:**

- Evacuate the area and fight fires from a safe distance.
- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions or as per locally valid procedures.



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- Fire-fighters must wear Self Contained Breathing Apparatus (SCBA).
- Chemical is water-soluble. Report any run-off of firewater's contaminated with this chemical as per local and federal procedures applicable.
- Report any run-off of fire waters contaminated with this chemical as per local and federal procedures applicable.

### 5.3. Unusual fire and explosion hazard:

- Toxic vapors may be released on thermal decomposition including nitrogen oxides, carbon monoxide and carbon dioxide.
- High vapor concentration may result in an explosion hazard.
- Vapors are heavier than air. May travel considerable distance from source and flashback.

## SECTION 6: ACCIDENTAL RELEASE MEASURES .

### Minor Spills

- Clean up all spills immediately following relevant Standard Operating Procedures.
- Avoid breathing vapors and contact with skin and eyes.
- Shut off leak source if possible.
- Shut off all possible sources of ignition.
- Wear protective clothing, boots, impervious gloves and safety glasses.
- Wipe up.
- Decontaminate all equipment.

### Major Spill

- Alert Emergency Responders and tell them location and nature of hazard.
- Shut off all possible sources of ignition and increase ventilation.
- Wear protective clothing, full boots, impervious gloves, safety glasses and Self Contained Breathing Apparatus (SCBA), as may be deemed appropriate.
- Clear area of personnel and move upwind.
- Stop leaks if possible.
- Prevent, by any means available, spillage from entering drains or water and watercourses.
- Collect recoverable product into labeled containers for recycling, recovery or disposal.
- Contain spill with sand, earth or vermiculite.
- Spread area with lime or absorbent material, and leave for at least 1 hour before washing.
- Clean up all tools and equipment.
- Inform authorities in event of contamination of any public sewers, drains or water bodies.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

- Do not breathe vapor or mist.
- Wear protective gloves/clothing and eye/face protection.
- Wash thoroughly after handling.
- Ground and secure containers when dispensing or pouring product.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Launder contaminated clothing before re-use.
- If on skin or hair, IMMEDIATELY remove all contaminated clothing and rinse/shower with plenty of water.
- Use in a well-ventilated place/Use protective clothing commensurate with exposure levels.

### 7.2. Storage

- Store at ambient temperature, in a dry and well-ventilated place.
- Keep securely closed when not in use.
- Keep in original containers.

## SECTION 8 : EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Control parameters

- **Exposure Limits Values**

Chemical name	STEL (ppm)	NIOSH	ACGIH	OSHA
2-(Aminomethyl)piperidine	None Available	None Available	None Available	None Available

### Exposure Limits (International):

- Not available.

### 8.2. Exposure controls



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### Appropriate Engineering Controls:

- Provide exhaust ventilation or other engineering controls to keep the relevant airborne concentrations below their respective occupational exposure limits. Local ventilation is usually preferred. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protection

- Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.
- **Hands Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands..
- **Eyes/Face Protection:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU)
- **Body Protection:** Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
- **Respiratory Protection** Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). filter
- For emergency situations, wear a positive pressure, pressure-demand, full face piece self- contained breathing apparatus (SCBA) or pressure-demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998).

### General Hygiene and general comments:

- Wash hands and face after working with substance.
- Immediately change contaminated clothing.
- Apply skin protective barrier cream

### SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

- **Information on basic physical and chemical properties.**

Sr.No.	Parameter	Typical value
1	Appearance	Colorless to pale yellow liquid
2	Odor	Not available
3	Odor Threshold	Not available
4	Melting point	37.4 °C (predicted)
5	Boiling point	176.9°C at 760 mmHg
6	Flash point	68 °C / 154.4 °F
7	Evaporation rate (n-BuAc=1)	Not available
8	Explosive limits	Not available
9	Vapor pressure	1.07 Torr
10	Vapor density (air=1)	Not available
11	Relative density	0,9406 g/cm <sup>3</sup> at 25 °C
12	Solubility	Soluble in water
13	PH (10%)	12
14	Log Kow (octanol/water)	0.13
15	Auto-ignition temperature	Not available



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16	Decomposition temperature	Not available
17	Viscosity	Not available
18	Molecular Weight	114.19
19	PKa (@25°C)	Not available
20	Flammable	Combustible liquid
21	Oxidizer	No
22	Corrosive material	Yes
23	Explosive material	No

#### SECTION 10: STABILITY AND REACTIVITY

- **Reactivity:** No data available.
- **Stability:** Stable at normal conditions of temperature and pressure.
- **Conditions to avoid:** Keep away from High temperature, mechanical shock, incompatible materials, ignition sources, excess heat, and moisture. Avoid hygroscopic conditions, static discharge and uncontrolled exposure to high temperatures.
- **Incompatible chemicals:** Strong oxidizing agents, strong acids, anhydrides, isocyanates etc.
- **Hazardous decomposition:** Thermal decomposition may produce carbon monoxide and oxides of nitrogen, carbon dioxide and irritating and toxic fumes.
- **Hazardous Polymerization:** Not reported.

#### SECTION 11: TOXICOLOGICAL INFORMATION

##### 11.1. Information on toxicological effects

###### Acute toxicity.

#### ACUTE TOXICITY DATA

Type of Test	Route of Exposure	Species Observed	Dose Data	Toxic Effects	References
LD50	Oral	Rodent-Rat	1034.06mg/kg	-	Predicted Oral rat LD50 from Consensus method (US EPA Test tool)

Skin corrosion/irritation	: Causes severe skin burns and eye damage.
Serious eye damage/irritation	: Causes eye damage.
Respiratory or skin sensitization	: No data available
Germ cell Mutagenicity	: No data available
Carcinogenicity	: 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. Not present on the EU CMR list. According to information presently available 2-(Aminomethyl)piperidine is not found to be carcinogenic.
Reproductive toxicity	: No data available.
STOT-single exposure	: No data available.
STOT- repeated exposure	: No data available.
Aspiration Hazards	: No data available.

#### Additional Information

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RTECS: Not available

#### SECTION 12: ECOLOGICAL INFORMATION

##### 12.1 Toxicity :

##### 12.1.1 Ecotoxicity:

##### 2-(Aminomethyl)piperidine (22990-77-8)

- Fathead minnow LC<sub>50</sub> (96 hr): 787.17mg/L (Predicted Fathead minnow LC50 (96 hr) from Consensus method-US EPA Test Tool)

##### Persistence and degradability

- Not readily biodegradable.

##### Bio accumulative potential

##### 2-(Aminomethyl)piperidine (22990-77-8)

- BCF-3.162 L/Kg wet wt., Log BCF-0.500

##### Mobility in soil

##### 2-(Aminomethyl)piperidine (22990-77-8)

- No data available


#### SECTION 13: DISPOSAL CONSIDERATIONS

##### Waste treatment methods

- Burn in a chemical incinerator equipped with an afterburner and scrubber.
- Dispose of this material in accordance with standard practice for disposal of potentially hazardous materials as required by applicable federal, state or local laws. Note that disposal regulations may also apply to empty containers and equipment rinsates.

#### SECTION 14: TRANSPORT INFORMATION

- This substance is considered to be hazardous for transportation by Air/ Rail/ Road and Sea and thus regulated by IATA/ ICAO/ ARD/ RID/ IMO/ IMDG/ US DOT.

S.No	Agency	UN Number	Proper Shipping name	Hazard Class	Packing Group
Land Transport	ADR/ RID	2735	Amines, liquid, corrosive, n.o.s. (2-(Aminomethyl)piperidine	8	II
Maritime Transport	IMDG	2735	Amines, liquid, corrosive, n.o.s. (2-(Aminomethyl)piperidine	8	II
Air Transport	IATA	2735	Amines, liquid, corrosive, n.o.s. (2-(Aminomethyl)piperidine	8	II
Hazard Label		Corrosive			

##### Environmental hazards:

- Marine pollutant: No.



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### SECTION 15: REGULATORY INFORMATION

#### European Union Information

##### Classification as per CLP Regulation 1272/2008:

- **Hazards Class and Category:** Acute toxicity, oral(Category 4), Skin corrosion / irritant: Category 1A
- **Hazard Statements:** H302, H314

Chemical Inventory Lists:	Status
<b>TSCA:</b>	Not Listed
<b>EINECS:</b>	245-371-1
<b>Canada(DSL/NDSL):</b>	Not Listed
<b>Japan:</b>	Listed (ENCS)
<b>Korea:</b>	Listed(KECI)
<b>Australia:</b>	Not listed
<b>Taiwan</b>	Listed (TSCI)
<b>The Philippines</b>	Not Listed (PICCS)
<b>China: IECSC</b>	Not listed

#### US information

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

2-(Aminomethyl)piperidine is not listed

**SARA 302/304 :** 2-(Aminomethyl)piperidine is not listed

**SARA 311/312 :** See section 2 for more information

**California Prop. 65:** 2-(Aminomethyl)piperidine is not listed

**CAA (Clean Air Act):** 2-(Aminomethyl)piperidine is not listed

**CWA (Clean Water Act):** 2-(Aminomethyl)piperidine is not listed

#### EU Information

**Water hazard class (WGK):** WGK 2 (obviously hazardous to water)

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006:** 2-(Aminomethyl)piperidine is not listed

### SECTION 16: OTHER INFORMATION

#### a) Compilation information of safety data sheet

Date of compilation	: February 14, 2005
Chemical	: 2-(Aminomethyl) piperidine
CAS #	: 22990-77-8
File Name	: 0221Gj Ghs07 Div.3 sds 2-(Aminomethyl)piperidine
Revision Number	: 07
Date of revision of SDS	: February 14, 2024
Revision Due Date	: January, 2027
Supersedes date	: January 02, 2024

#### b) A key or legend to aberrations and acronyms used in the safety data sheet

- PBT =Persistent Bio accumulative and Toxic.
- vPvB= Very Persistent and Very Bio accumulative.
- SCBA= Self Contained Breathing Apparatus.
- NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit.
- OSHA PEL=Occupational Safety and Health Administration Permissible Exposure Limit.
- OELTWA= Occupational Exposure Limit Time Weighted Averages.
- IDLH= Immediately Dangerous to Life or Health.
- UEL= Upper Explosive Limit.
- LEL= Lower Explosive Limit.
- RTECS= Registry of Toxic Effects of Chemical Substances.
- NTP=National Toxicology Program
- IARC= International Agency for Research on Cancer.
- EPA=Environmental Protection Agency.
- TSCA= Toxic Substances Control Act.
- DSL/NDSL= Domestic/Non-Domestic Substances List.





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- CSR=Chemical Safety Report.
- BCF = Bio Concentration Factor.
- DNEL = Derived No Effect Level.
- PNEC = Predicted No Effect Concentration.
- TLV = Threshold Limit Value.
- ACGIH = American Conference of Governmental Industrial Hygienists.
- REACH = Registration, Evaluation .Authorization and Restriction of Chemicals.
- CLP = Classification, Labeling and Packaging.
- LD / LC = Lethal Doses / Lethal Concentration.
- GHS = Globally Harmonized System.
- ADR = Accord European relative au transport international de marchandises.
- IMDG-Code = International Maritime Code for Dangerous Goods.
- EmS = Emergency measures on Sea.
- ICAO = International Civil Aviation Organization.
- IATA/DGR= International Air Transport Association/Dangerous Goods Regulation.

### (c) Key Literature reference and sources for data

#### Biographical reference and data sources

- CLP REG (regulation) (EC) no. 1272/2008, last modification by regulation (EC) no. 790/2009
- DIR 67/548/EWG, last modification by DIR 2009/2/EC
- Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EC) No. 2020/878

#### Company's Declaration:

Information contained in this SDS is believed to be correct but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Jubilant Ingrevia Limited makes no warranties expressed or implied of the adequacy of this document for any particular purpose.

(End of Safety Data Sheet)