

# Material Safety Data Sheet

<b>Product name</b>	<b>m-Xylylenediamine</b>
---------------------	--------------------------

## 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product name	m-Xylylenediamine
1.2. CAS-No.	1477-55-0
1.3. Relevant identified uses of the substance or mixture and uses advised against	
Identified uses	Laboratory chemicals, Synthesis of substances
1.4. Details of the supplier of the safety data sheet	
Company	Glory Global CO.,LTD
Address	C-208, 10, Nowon-ro 15-gil, Nowon-gu, Seoul, Korea
Emergency Phone	+82 2 6223 0862

## 2. Hazards identification

### 2.1. Classification of the substance or mixture

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

Acute toxicity, Oral (Category 4), H302  
 Acute toxicity, Inhalation (Category 4), H332  
 Skin corrosion (Category 1B), H314  
 Serious eye damage (Category 1), H318  
 Skin sensitisation (Category 1), H317  
 Short-term (acute) aquatic hazard (Category 3), H402  
 Long-term (chronic) aquatic hazard (Category 3), H412  
 For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2. GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H302 + H332 Harmful if swallowed or if inhaled.  
 H314 Causes severe skin burns and eye damage.  
 H317 May cause an allergic skin reaction.  
 H412 Harmful to aquatic life with long lasting effects.  
 Precautionary statement(s)  
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
 P264 Wash skin thoroughly after handling.  
 P270 Do not eat, drink or smoke when using this product.  
 P271 Use only outdoors or in a well-ventilated area.  
 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.  
 P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
 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.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P363 Wash contaminated clothing before reuse.

P405 Store locked up.

Corrosive to the respiratory tract.

### 2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

## 3. Composition/information on ingredients

### 3.1. Substances

Synonyms

1,3-Bis(aminomethyl)benzene  
 $\alpha,\alpha'$ -Diamino-m-xylene

Formula C<sub>8</sub>H<sub>12</sub>N<sub>2</sub>  
 Molecular weight 136.19 g/mol  
 CAS-No. 1477-55-0  
 EC No. 216-032-5

Component	Classification	Concentration
<b>1,3-Bis(aminomethyl)benzene</b>		
	Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Skin Sens. 1; Aquatic Acute 3; Aquatic Chronic 3; H302, H332, H314, H318, H317, H402, H412	≤ 100 %

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

#### 4. First aid measures

##### 4.1. Description of first aid measures

General advice Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

In case of eye contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

If swallowed Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2. Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed No data available

#### 5. Firefighting measures

5.1. Suitable extinguishing media Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2. Special hazards arising from the substance or mixture Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

5.3. Advice for firefighters Wear self-contained breathing apparatus for firefighting if necessary.

5.4. Further information No data available

#### 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. For personal protection see section 8.

6.2. Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3. Methods and materials for containment and cleaning up Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections For disposal see section 13.

#### 7. Handling and storage

7.1. Precautions for safe handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Storage class (TRGS 510): 8A: Combustible, corrosive hazardous materials

7.3. Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

#### 8. Exposure controls/personal protection

##### 8.1. Control parameters

Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
1,3-Bis(aminomethyl) benzene	1477-55-0	C	0.1 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Eye irritation Skin irritation Gastrointestinal irritation See Notice of Intended Changes (NIC) Danger of cutaneous absorption		
		C	0.1 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		Potential for dermal absorption		
		C	0.1 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		Skin		

##### 8.2. Exposure controls

Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

a) Eye/face protection	Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
b) Skin protection	<p>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.</p> <p>Full contact Material: Chloroprene Minimum layer thickness: 0.6 mm Break through time: 480 min Material tested: Camapren® (KCL 722 / Aldrich Z677493, Size M)</p> <p>Splash contact Material: Nature latex/chloroprene Minimum layer thickness: 0.6 mm Break through time: 30 min Material tested: Lapren® (KCL 706 / Aldrich Z677558, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374</p> <p>If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be</p>
c) 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.
d) Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) 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).
e) Control of environmental exposure	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## 9. Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Appearance	Form: clear, liquid Colour: colourless
Odour	amine-like
Odour Threshold	No data available
pH	12 at 1 g/l at 20 °C (68 °F)
Melting point/freezing point	Freezing point/ range: 14.00 °C (57.20 °F) – OECD Test Guideline 102
Initial boiling point and boiling range	265 °C 509 °F at 993 hPa – lit.
Flash point	113 °C (235 °F) – closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	0.01 hPa at 25 °C (77 °F) – OECD Test Guideline 104
Vapour density	No data available
Relative density	1.032 g/cm <sup>3</sup> at 25 °C (77 °F) – lit.
Water solubility	100 g/l at 20 °C (68 °F) – OECD Test Guideline 105 – completely miscible
Partition coefficient: n-octanol/water	log Pow: ca.0.18 at 25 °C (77 °F) – OECD Test Guideline 107
Auto-ignition temperature	395 – 405 °C (743 – 761 °F) at 1006.90 – 1013.10 hPa
Decomposition temperature	No data available
Viscosity	6.78 mm <sup>2</sup> /s at 20 °C (68 °F) –
Explosive properties	No data available
Oxidizing properties	No data available

9.2. Other safety information      Dissociation constant 9.52 at 20 °C (68 °F)

## 10. Stability and reactivity

10.1. Reactivity	No data available
10.2. Chemical stability	Stable under recommended storage conditions.
10.3. Possibility of hazardous reactions	No data available
10.4. Conditions to avoid	No data available
10.5. Incompatible materials	acids, Acid chlorides, Acid anhydrides, Oxidizing agents, Chloroformates
10.6. Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. – Carbon oxides, Nitrogen oxides (NO <sub>x</sub> ) Other decomposition products – No data available In the event of fire: see section 5

## 11. Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity	LD50 Oral – Rat – female – 980 mg/kg (OECD Test Guideline 401) LC50 Inhalation – Rat – male and female – 4 h – 1.34 mg/l (OECD Test Guideline 403) LD50 Dermal – Rabbit – 2,000 mg/kg (OECD Test Guideline 402) No data available
Skin corrosion/irritation	Skin – Rat Result: Corrosive – 4 h (Directive 67/548/EEC, Annex V, B.4.)
Serious eye damage/eye irritation	Eyes – Rabbit Result: Severe eye irritation – 24 h
Respiratory or skin sensitisation	in vivo assay – Mouse Result: May cause sensitisation by skin contact. (OECD Test Guideline 429)
Germ cell mutagenicity	Ames test S. typhimurium Result: negative Mutagenicity (micronucleus test) Mouse – male and female Result: negative
Carcinogenicity	
a) 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.
b) 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.
c) OSHA	No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
Reproductive toxicity	No data available
Specific target organ toxicity – single exposure	No data available
Specific target organ toxicity – repeated exposure	No data available
Aspiration hazard	No data available
Additional Information	Repeated dose toxicity – Rat – male and female – Inhalation RTECS: PF8970000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

## 12. Ecological information

### 12.1. Toxicity

Toxicity to fish	semi-static test LC50 – <i>Oryzias latipes</i> – 87.6 mg/l – 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	static test EC50 – <i>Daphnia magna</i> (Water flea) – 15.2 mg/l – 48 h (OECD Test Guideline 202)
Toxicity to algae	static test EC50 – <i>Pseudokirchneriella subcapitata</i> (algae) – 32.1 mg/l – 72 h (OECD Test Guideline 201)
Toxicity to bacteria	Respiration inhibition EC50 – Sludge Treatment – > 1,000 mg/l – 30 h (OECD Test Guideline 209)

### 12.2. Persistence and degradability

Biodegradability	aerobic – Exposure time 28 d Result: 49 % – Not readily biodegradable. (OECD Test Guideline 301B)
------------------	--

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6. Other adverse effects

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

## 13. Disposal considerations

### 13.1 Waste treatment methods

Product	Offer surplus and non-recyclable solutions to a licensed disposal company.
Contaminated packaging	Dispose of as unused product.

## 14. Transport information

### 14.1. DOT (US)

UN number: 2735 Class: 8 Packing group: II  
Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (1,3-Bis(aminomethyl)benzene) Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### 14.2. IMDG

UN number: 2735 Class: 8 Packing group: II IEMS-No: F-A, S-B Proper shipping name: POLYAMINES, LIQUID, CORROSIVE, N.O.S. (1,3-Bis(aminomethyl)benzene)

14.3. IATA

UN number: 2735 Class: 8 Packing group: II  
Proper shipping name: Polyamines, liquid, corrosive, n.o.s. (1,3-Bis(aminomethyl)benzene)

## 15. Regulatory information

15.1. SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

15.2. SARA 313 Components

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.

15.3. SARA 311/312 Hazards

Acute Health Hazard

15.4. Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

15.5. Pennsylvania Right To Know Components

1,3-Bis(aminomethyl)benzene

CAS-No.  
1477-55-0

Revision Date  
1993-02-16

## 16. Other information

16.1. Further information

