



SUPREME PETRO CHEMICALS

IMPORTER & DISTRIBUTOR OF INDUSTRIAL CHEMICALS ·
SINCE 1997

No. 145, 1st Floor, Raja Muthiah Road,
Periyamet, Chennai – 600003, India
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admin@supremepetrochemicals.com

SAFETY DATA SHEET (SDS)

Morpholine *SDS*

REV 3.1
29 JULY 2026
GHS REV.11 (2025)

CAS **110-91-8** EC **203-815-1** SIGNAL WORD **DANGER**

GHS02

Flammable
Liquid

GHS05

Corrosive

GHS06

Acute Toxicity

GHS07

Harmful /
Irritant

GHS09

Environmental
Hazard

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY

Product Name	Morpholine
Product Type	Morpholine — solvent / industrial chemical
Chemical Family	Morpholine
CAS No.	110-91-8
EC No.	203-815-1
Intended Use	Industrial / professional use as described on the SPC product page.
Restrictions on Use	Industrial / professional use only. Confirm suitability for final application before use.
Supplier	Supreme Petro Chemicals
Address	No. 145, 1st Floor, Raja Muthiah Road, Periyamet, Chennai – 600003, India
Emergency Contact	Sanketh — +91 86087 80096 · Sudarshan — +91 81979 47045
Email	admin@supremepetrochemicals.com
Product Page	https://www.supremepetrochemicals.com/products/morpholine
SDS Revision	July 2026
SDS Version	3.1

SECTION 2 HAZARD IDENTIFICATION

Flam. Liq. 3; Met. Corr. 1; Acute Tox. 4 (oral); Acute Tox. 3 (dermal, inhalation);
Skin Corr. 1; Eye Dam. 1; Aquatic Chronic 2

Signal Word **DANGER**



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GHS Pictograms

GHS02 (Flammable) | GHS05 (Corrosive) | GHS06 (Acute Toxicity) |
GHS07 (Harmful / Irritant) | GHS09 (Environmental Hazard)

HAZARD STATEMENTS

- H226 — Flammable liquid and vapour
- H290 — May be corrosive to metals
- H302 — Harmful if swallowed
- H311 — Toxic in contact with skin
- H312 — Harmful in contact with skin
- H314 — Causes severe skin burns and eye damage
- H318 — Causes serious eye damage
- H331 — Toxic if inhaled
- H332 — Harmful if inhaled
- H411 — Toxic to aquatic life with long lasting effects

PRECAUTIONARY — PREVENTION

- P233 — Keep container tightly closed.
- P240 — Ground/bond container and receiving equipment.
- P241 — Use explosion-proof electrical/ventilating/lighting equipment.
- P242 — Use only non-sparking tools.
- P243 — Take precautionary measures against static discharge.
- P260 — Do not breathe vapours or spray.
- P271 — Use only outdoors or in a well-ventilated area.
- P272 — Contaminated work clothing should not be allowed out of the workplace.
- P273 — Avoid release to the environment.
- P280 — Wear protective gloves / eye protection / face protection.

PRECAUTIONARY — RESPONSE / STORAGE / DISPOSAL

- P301+P310 — IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- 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 person to fresh air and keep comfortable for breathing.



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- P305+P351+P338 — IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
- P312 — Call a POISON CENTER or doctor if you feel unwell.
- P331 — Do NOT induce vomiting.
- P403+P235 — Store in a well-ventilated place. Keep cool.
- P405 — Store locked up.
- P501 — Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

COMPONENT	CAS NO.	EC NO.	% W/W	GHS CLASSIFICATION
Morpholine	110-91-8	203-815-1	100	Flam. Liq. 3; Met. Corr. 1; Acute Tox. 4 (oral); Acute Tox. 3 (dermal, inhal.); Skin Corr. 1; Eye Dam. 1; Aquatic Chronic 2

Full text of H-statements listed in Section 16.

SECTION 4 FIRST AID MEASURES

Inhalation	Remove person to fresh air immediately. Keep comfortable for breathing. If symptoms persist or breathing is difficult, call a POISON CENTER or doctor. Administer oxygen if available.
Skin Contact	Remove contaminated clothing immediately. Wash affected skin thoroughly with soap and water for at least 15 minutes. Seek medical attention if burns, irritation or symptoms persist.
Eye Contact	Rinse cautiously with water for at least 15 minutes. Remove contact lenses if present and easy to do — continue rinsing. Seek immediate medical attention; risk of serious eye damage.
Ingestion	Rinse mouth with water. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor. If conscious, give water to drink.
Note to Physician	Treat symptomatically based on exposure route and product hazards. Morpholine is corrosive; manage as for alkaline corrosive burns.



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SECTION 5 FIREFIGHTING MEASURES

Suitable Extinguishing Media	Dry chemical powder, CO ₂ , alcohol-resistant foam, or water spray. Water mist may be used to cool containers.
Unsuitable Media	Direct high-pressure water jet (may spread burning material).
Specific Hazards	Flammable liquid and vapour (Flash point ~38 °C). Vapours may form explosive mixtures with air and travel to ignition sources, then flash back. Heated containers may rupture. Combustion produces carbon oxides, nitrogen oxides, and irritating/toxic fumes.
Protective Equipment	Wear full protective clothing and self-contained breathing apparatus (SCBA). Do not enter fire area without full PPE.
Special Procedures	Evacuate non-essential personnel. Use grounded and explosion-proof equipment. Prevent contaminated fire-fighting run-off from entering drains and waterways. Cool exposed containers with water spray.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions	Isolate the area. Remove ignition sources. Use full PPE as specified in Section 8. Avoid breathing vapours. Ensure adequate ventilation.
Environmental Precautions	Prevent entry into drains, sewers, soil and watercourses. Morpholine is classified Aquatic Chronic 2 — notify authorities if significant environmental release occurs.
Containment / Clean-up	Contain spill with sand, earth or other non-combustible absorbent. Collect material into labelled, compatible, closed containers for disposal through an approved waste contractor. Avoid ignition sources during clean-up.
Reference to Sections	See Section 8 for PPE, Section 13 for disposal, Section 15 for regulatory information.

SECTION 7 HANDLING AND STORAGE

Handling Precautions	Use adequate local exhaust ventilation. Avoid skin, eye and clothing contact. Avoid breathing vapours. Use only non-sparking tools and explosion-proof equipment. Ground and bond containers when transferring.
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Hygiene	Wash hands thoroughly after handling. Remove contaminated clothing before reuse. Do not eat, drink or smoke when using this product.
Storage Conditions	Store in original, tightly closed compatible containers (steel or polyethylene) in a cool, dry, well-ventilated area away from ignition sources.
Storage Temperature	Ambient (below 30 °C recommended). Morpholine freezes at approximately -4.9 °C — protect from freezing in cold climates.
Incompatible Materials	Strong oxidising agents (nitric acid, chlorine, permanganates, peroxides), concentrated acids, halogens, aluminium chloride at elevated temperatures.
Segregation	Segregate from food, drink, animal feed and incompatible chemicals. Store locked up (P405).

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational Exposure Limit	OSHA PEL: 20 ppm (70 mg/m ³) TWA (skin notation). NIOSH REL: 20 ppm TWA (skin). ACGIH TLV: 20 ppm TWA (skin). EU / India: verify current local OEL before use. Apply ALARA / good industrial hygiene where OEL is not established.
Engineering Controls	Use closed systems, local exhaust ventilation (LEV), or general dilution ventilation sufficient to maintain vapour concentrations below OEL. Use grounded explosion-proof ventilation where flammable vapours may accumulate.
Respiratory Protection	Where ventilation is inadequate, use a NIOSH/EN-approved respirator with organic vapour + ammonia/amine cartridges or combination cartridge. Use SCBA for emergencies or high-concentration exposures.
Hand / Eye / Skin	Hands: chemical-resistant gloves (butyl rubber, neoprene or nitrile ≥0.4 mm; verify breakthrough time for the task). Eyes/Face: EN 166/ANSI Z87.1 chemical splash goggles; add face shield for splash risk. Skin/Body: chemical-resistant apron, lab coat and safety footwear; antistatic PPE where flammable vapours may occur. Provide eyewash station and safety shower at the worksite.



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SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless, hygroscopic liquid
Odour	Characteristic amine / weak ammonia-like or fish-like odour
Odour Threshold	Not established in reviewed public source
pH	~10.5–11.5 (aqueous solution, 1% w/v); not applicable to pure liquid
Melting / Freezing Point	–4.9 °C (23.2 °F) [NTP, 1992]
Boiling Point / Range	128.9 °C (264 °F) at 760 mmHg [NTP, 1992]
Flash Point	~38 °C (100 °F) closed cup [see flag]
Auto-ignition Temperature	~310 °C (590 °F) [USCG, 1999]
Flammability Limits	LEL ~1.4 % v/v; UEL ~11.2 % v/v [see flag]
Vapour Pressure	6.6 mmHg at 20 °C (68 °F) [NTP, 1992]; 10.1 mmHg at 25 °C
Vapour Density (air = 1)	3.0 [NTP, 1992] — heavier than air; will sink
Relative Density	~1.002 at 20 °C (water = 1)
Solubility in Water	Miscible in all proportions [NTP, 1992]
Log Pow (Partition Coeff.)	–0.86 [PubChem experimental]
Evaporation Rate	See supplier SDS for grade-specific value
Viscosity	2.23 cP at 20 °C [PubChem experimental]
VOC Content	Assess per applicable regional VOC regulations

SECTION 10 STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage and handling conditions.
Conditions to Avoid	Avoid heat, open flames, ignition sources, contamination and incompatible materials.
Incompatible Materials	Strong oxidising agents (nitric acid, chlorine, permanganates, peroxides). Avoid contact with concentrated acids and halogens. Reactive with aluminium chloride (AlCl ₃) under elevated temperature — not a concern in ambient blending or storage.
Hazardous Decomposition	Carbon oxides (CO, CO ₂), nitrogen oxides, and irritating or toxic fumes may be formed in fire.
Hazardous Reactions	No hazardous reactions under normal storage and handling conditions.



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SECTION 11 TOXICOLOGICAL INFORMATION

Acute Oral Toxicity	Classified Acute Tox. 4 (H302: Harmful if swallowed). LD ₅₀ oral rat: ~1,050 mg/kg (PubChem / ECHA).
Acute Dermal Toxicity	Classified Acute Tox. 3 (H311: Toxic in contact with skin). LD ₅₀ dermal rabbit: ~500 mg/kg (PubChem / ECHA). Skin absorption possible.
Acute Inhalation Toxicity	Classified Acute Tox. 3 (H331: Toxic if inhaled). LC ₅₀ rat (4 h, vapour): ~8,000 ppm. H332 also applied (harmful if inhaled).
Skin Irritation	Classified Skin Corr. 1 (H314: Causes severe skin burns and eye damage). Corrosive to skin on prolonged or repeated contact.
Eye Irritation	Classified Eye Dam. 1 (H318: Causes serious eye damage). Severe damage on contact.
Sensitisation	No sensitisation classification. Confirm with supplier test data.
Carcinogenicity	Not classified as a carcinogen under GHS. IARC: not listed in Group 1/2A/2B. Confirm with current regulatory databases.
Mutagenicity	Not classified as a mutagen under GHS. Confirm with supplier data.

SECTION 12 ECOLOGICAL INFORMATION

Aquatic Toxicity	Classified Aquatic Chronic 2 (H411: Toxic to aquatic life with long lasting effects). LC ₅₀ fish (96 h): ~100–180 mg/L; EC ₅₀ Daphnia (48 h): ~100 mg/L (indicative — confirm from ECHA/PubChem).
Persistence / Degradability	Morpholine is moderately biodegradable; not classified as readily biodegradable. Confirm from supplier or ECHA REACH dossier.
Bioaccumulation	Log Kow = -0.86 — low bioaccumulation potential (BCF < 100 expected).
Mobility in Soil	Highly water-soluble; risk of leaching to groundwater. Prevent release to soil and watercourses.
Other Adverse Effects	Avoid uncontrolled release to the environment. Manage releases under applicable local environmental regulations.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste from Product	Dispose of contents through an authorised hazardous-waste contractor in accordance with local regulations. Do not pour down drains or into water bodies.
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Contaminated Packaging	Empty containers may retain residues; handle as hazardous until professionally cleaned or disposed. Rinse containers with water before disposal where safe to do so.
Indian Regulations	Follow Hazardous and Other Wastes (Management and Transboundary Movement) Rules 2016 and applicable SPCB / CPCB requirements. Assign appropriate waste category code.

SECTION 14 TRANSPORT INFORMATION

PARAMETER	UN / ADR (ROAD)	IMDG (SEA)	IATA (AIR)
UN Number	UN 2054	UN 2054	UN 2054
Proper Shipping Name	MORPHOLINE	MORPHOLINE	MORPHOLINE
Class	3 (Flammable Liquid)	3 (Flammable Liquid)	3 (Flammable Liquid)
Packing Group	II	II	II
Marine Pollutant	Verify / likely Yes (Aquatic Chronic 2)	Verify / likely Yes	N/A

UN-certified drum required for international transport; labelled with Class 3 placard, UN 2054, PG II and product name. Verify current carrier rules, EmS (IMDG: F-E, S-E – verify) and ADR tunnel restriction code before shipment. Packing Group II confirmed from standard morpholine transport data.

SECTION 15 REGULATORY INFORMATION

EU / REACH / CLP	Observe REACH and CLP requirements where applicable. Classified and labelled according to GHS/CLP classification in Section 2. Observe applicable workplace chemical, VOC and environmental requirements.
OSHA (USA)	Prepared in OSHA HCS/HazCom-aligned 16-section SDS format. Verify TSCA inventory / SNUR status before US import or distribution.
India	Observe applicable Indian MSIHC Rules 1989, Factories Act, environment and hazardous waste regulations (HW Rules 2016), and applicable SPCB / CPCB requirements.
Other Jurisdictions	Canada: classify/label under WHMIS 2015/HPR; bilingual SDS/label and ingredient disclosure may be required. China: observe GB/T SDS and classification requirements. Australia: check AICS inventory status before export or import. GCC/Middle East: observe applicable GHS-aligned local requirements. Final market placement requires



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confirmation of local OELs, transport class, waste code and restrictions.

SECTION 16 OTHER INFORMATION

Prepared By	Supreme Petro Chemicals — Technical Department
SDS Standard	UN GHS Rev.11 (2025); OSHA HCS/HazCom; EU CLP/REACH Annex II; Canada WHMIS/HPR — 16-section format
Revision Date	24 June 2026
Version	3.0 (supersedes prior issues)
Disclaimer	Information is given in good faith and believed accurate at issue. It does not constitute a specification or guarantee; the user is responsible for safe use, handling and compliance.

FULL TEXT OF H-STATEMENTS

- H226 — Flammable liquid and vapour
- H290 — May be corrosive to metals
- H302 — Harmful if swallowed
- H311 — Toxic in contact with skin
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