

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Revision date 16-Jun-2026

Revision Number 2.01

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product Code(s) 126989

Safety data sheet number 126989

Product Name MORPHOLINE

Index No 613-028-00-9

EC Number 203-815-1

CAS No 110-91-8

Pure substance/mixture Substance

Contains MORPHOLINE

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

Recommended use Chemicals used in the synthesis and / or formulation of industrial products

1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address SDS.EMEA@univarsolutions.com

Non-Emergency Telephone Number +44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone SGS - +32 (0)3 575 55 55 (24h)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flammable liquids	Category 3 - (H226)
Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Dermal	Category 3 - (H311)
Acute toxicity - Inhalation (Vapours)	Category 3 - (H331)

Skin corrosion/irritation	Category 1 Sub-category B - (H314)
Serious eye damage/eye irritation	Category 1 - (H318)
Reproductive toxicity	Category 2 - (H361)

2.2. Label elements

Contains MORPHOLINE



Signal word

Danger

Hazard statements

H302 - Harmful if swallowed

H311 - Toxic in contact with skin

H314 - Causes severe skin burns and eye damage

H331 - Toxic if inhaled

H361 - Suspected of damaging fertility or the unborn child

H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child

H226 - Flammable liquid and vapour

Precautionary statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P260 - Do not breathe dust/fume/gas/mist/vapours/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

2.3. Other hazards

No information available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
MORPHOLINE 110-91-8	90 - 100%	203-815-1 (613-028-00-9)	-	Acute Tox. 4 (H302) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1A (H314) Flam. Liq. 3 (H226)	-	-	-

2,2'-OXYDI(ETHYL AMINE) 2752-17-2	< 0.5%	220-395-5	-	Repr. 2 (H361FD) Aquatic Chronic 2 (H411) Skin Corr. 1B (H314) Acute Tox. 4 (H302) Eye Dam. 1 (H318)	-	-	-
2-METHOXYETHA NOL 109-86-4	< 0.5%	203-713-7	-	Repr. 1B (H360FD) Flam. Liq. 3 (H226) Acute Tox. 4 (H332) Acute Tox. 4 (H302) Acute Tox. 4 (H312)	-	-	-

Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures**4.1. Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Immediate medical attention is required.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical attention. Remove contact lenses, if present and easy to do. Continue rinsing.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Remove all sources of ignition. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Do not breathe vapour or mist.

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

Symptoms	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
Inhalation	Toxic if inhaled.
Eyes	Causes severe burns. Burning sensation.
Dermal	Toxic in contact with skin. Causes severe burns. Burning sensation.
Ingestion	Harmful if swallowed

4.3. Indication of any immediate medical attention and special treatment needed

Note to doctors	Pulmonary odema prophylaxis. Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical. Carbon dioxide (CO₂). Water spray. Alcohol resistant foam.

Large Fire CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical Risk of ignition. Keep product and empty container away from heat and sources of ignition. The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. Attention! Corrosive material. Do not breathe vapour or mist.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Should not be released into the environment. Do not allow to enter into soil/subsoil.

6.3. Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapour suppressing foam may be used to reduce vapours. Dyke far ahead of spill to collect run-off water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labelled containers.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling**Advice on safe handling**

Use personal protection equipment. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use according to package label instructions. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash it before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes. Do not breathe vapour or mist.

General hygiene considerations

Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe vapour or mist.

7.2. Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labelled containers. Do not store near combustible materials. Store in accordance with the particular national regulations. Protect from moisture. Store away from other materials.

Packaging materials

Suitable container/equipment material: Carbon Steel. stainless steel. Low density polyethylene (LDPE). High density polyethylene (HDPE).

7.3. Specific end use(s)**Specific use(s)**

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure Limits**

Chemical name	United Kingdom
MORPHOLINE 110-91-8	TWA: 10 ppm TWA: 36 mg/m ³ STEL: 20 ppm STEL: 72 mg/m ³ Sk*

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
MORPHOLINE 110-91-8		1.04 mg/kg bw/day [4] [6]	91 mg/m ³ [4] [6] 36 mg/m ³ [5] [6] 72 mg/m ³ [5] [7]

[4] Systemic health effects.

[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
MORPHOLINE 110-91-8	6.3 mg/kg bw/day [4] [6]		

[4]	Systemic health effects.
[5]	Local health effects.
[6]	Long term.
[7]	Short term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
MORPHOLINE 110-91-8	0.163 mg/L	0.09 mg/L	0.0163 mg/L		

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
MORPHOLINE 110-91-8	1.83 mg/kg sediment dw	0.183 mg/kg sediment dw	10 mg/L	0.269 mg/kg soil dw	

8.2. Exposure controls

Engineering controls No information available.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles). Use eye protection according to EN 166.

Hand protection Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Gloves must conform to standard EN 374.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Butyl rubber Fluoroelastomer	0.7 mm	480 minutes
Short term	Nitrile rubber	0.4 mm	30 minutes
Short term	Polyvinyl chloride (PVC)	0.7 mm	30 minutes
Short term	Chloroprene rubber (CR)	0.5 mm	30 minutes

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

ABEK-P3.

General hygiene considerations	Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Do not breathe vapour or mist.
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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Liquid
Colour	Colourless to pale yellow
Odour	Amine.
Odour threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	-5 °C	
Initial boiling point and boiling range	128 - 130 °C	
Flammability		No information available.
Flammability Limit in Air		No information available.
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point	32 °C	Closed cup.
Autoignition temperature	255 °C	
Decomposition temperature	390 °C	
pH		No information available.
pH (as aqueous solution)	10.6	solution (5.0 %).
Kinematic viscosity		No information available.
Dynamic viscosity	2.23 mPa s	@ 20.0 °C.
Water solubility	Miscible with water	
Solubility(ies)		No information available.
Partition coefficient	log Kow: -2.55	
Vapour pressure	9.8 hPa	@ 20.3 °C.
Relative density	1.007	15.0 °C.
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density	> 1	
Particle characteristics		No information available.
Particle Size	No information available	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	

9.2. Other information

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable under recommended storage conditions.
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10.2. Chemical stability

Stability	Stable under normal conditions.
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Explosion data**Sensitivity to mechanical impact** None.**Sensitivity to static discharge** Yes.**10.3. Possibility of hazardous reactions****Possibility of hazardous reactions** None under normal processing.**Hazardous polymerisation** Polymerisation can occur.**10.4. Conditions to avoid****Conditions to avoid** Excessive heat. Keep away from open flames, hot surfaces and sources of ignition.**10.5. Incompatible materials****Incompatible materials** Acids. Bases. Oxidising agent. Strong acids. Strong oxidising agents. Nitrosating agents.**10.6. Hazardous decomposition products****Hazardous decomposition products** Carbon oxides.**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

Inhalation	Toxic if inhaled.
Eye contact	Causes severe burns.
Skin contact	Toxic in contact with skin. Causes severe burns.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing. Difficulty in breathing.**Acute toxicity****Numerical measures of toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
MORPHOLINE	= 1050 mg/kg (Rat)	310 - 810 mg/kg (Rabbit)	> 8000 ppm (Rat) 8 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation** Causes severe burns.**Serious eye damage/eye irritation** Causes eye burns.

Respiratory or skin sensitisation	No information available.
Germ cell mutagenicity	No information available.
Carcinogenicity	No information available.
Reproductive toxicity	Suspected of damaging fertility or the unborn child.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.
Other adverse effects	No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Not considered to be harmful to aquatic life.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
MORPHOLINE	EC50: =28mg/L (96h, Pseudokirchneriella subcapitata)	LC50: =350mg/L (96h, Lepomis macrochirus) LC50: 375 - 460mg/L (96h, Oncorhynchus mykiss) LC50: >1000mg/L (96h, Brachydanio rerio)	-	-

12.2. Persistence and degradability

Persistence and degradability Readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Bioconcentration factor (BCF) < 2.8

Component Information

Chemical name	Partition coefficient
MORPHOLINE	-0.84

12.4. Mobility in soil

Mobility in soil Miscible with water.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
MORPHOLINE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products Should not be released into the environment. Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID number UN2054
 14.2 UN proper shipping name MORPHOLINE
 14.3 Transport hazard class(es) 8
 Subsidiary hazard class 3
 14.4 Packing group I
 14.5 Environmental hazards No
 14.6 Special precautions for user
 Special Provisions None
 ERG Code 8F

IMDG

14.1 UN number or ID number UN2054
 14.2 UN proper shipping name MORPHOLINE
 14.3 Transport hazard class(es) 8
 Subsidiary hazard class 3
 14.4 Packing group I
 14.5 Environmental hazards No
 14.6 Special precautions for user
 Special Provisions None
 EmS-No F-E, S-C
 14.7 Maritime transport in bulk according to IMO instruments Y 3

RID

14.1 UN number or ID number UN2054
 14.2 UN proper shipping name MORPHOLINE
 14.3 Transport hazard class(es) 8
 Subsidiary hazard class 3
 14.4 Packing group I
 14.5 Environmental hazards No
 14.6 Special precautions for user

Special Provisions	None
Classification code	CF1

ADR

14.1 UN number or ID number	UN2054
14.2 UN proper shipping name	MORPHOLINE
14.3 Transport hazard class(es)	8
Subsidiary hazard class	3
14.4 Packing group	I
14.5 Environmental hazards	No
14.6 Special precautions for user	
Special Provisions	None
Classification code	CF1
Tunnel restriction code	(D/E)

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product contains one or more substances subject to restriction (UK REACH - Annex XVII).

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Dangerous substance category per COMAH Regulations 2015 (as amended)

H2 - ACUTE TOXIC

P5c - FLAMMABLE LIQUIDS

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories

TSCA	Contact supplier for inventory compliance status
DSL/NDL	Contact supplier for inventory compliance status
EINECS/ELINCS	Contact supplier for inventory compliance status
ENCS	Contact supplier for inventory compliance status
IECSC	Contact supplier for inventory compliance status
KECI	Contact supplier for inventory compliance status
PICCS	Contact supplier for inventory compliance status

AIIC Contact supplier for inventory compliance status
 NZIoC Contact supplier for inventory compliance status

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AIIC - Australian Inventory of Industrial Chemicals
NZIoC - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H226 - Flammable liquid and vapour
 H302 - Harmful if swallowed
 H311 - Toxic in contact with skin
 H314 - Causes severe skin burns and eye damage
 H318 - Causes serious eye damage
 H331 - Toxic if inhaled
 H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child

Legend

SVHC: Substances of Very High Concern for Authorisation:

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note ***Indicates updated data since last publication

Classification procedure

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
European Chemicals Agency (ECHA) (ECHA_API)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
National Institute of Technology and Evaluation (NITE)
Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
Organisation for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Prepared By Jitendra Panchal

Revision date 16-Jun-2026

**This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work**

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 Safety Data Sheet