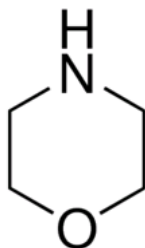


MATERIAL SAFETY DATA SHEET (MSDS)

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

1.1. Product identifier

Product form : Substance
:
EC Index-No. : 613-028-00-9
EC-No. : 203-815-1
CAS-No. : 110-91-8
Product code : 00220
Chemical structure :



Synonyms : Tetrahydro-1,4-oxazine

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : Industrial
For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

SPAN LAB
UNIT NO. 14, SKY INDUSTRIAL ESTATE, WALIV, VASAI (E)
401208 Mumbai - INDIA
PH: +91 9820509929
info@spanlab.in www.spanlab.in

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Flammable liquids, H226
Category 3
Acute toxicity (oral), H302
Category 4
Acute toxicity (dermal), H312

MORPHOLINE Extra Pure

Safety Data Sheet

Category 4
Acute toxicity (inhal.), H332
Category 4
Skin corrosion/irritation, H314
Category 1B

Full text of H statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xn; R20/21/22
C; R34
R10

Full text of R-phrases: see section 16

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP) :



GHS02

GHS05

GHS07

Signal word (CLP) : Danger

Hazard statements (CLP) : H226 - Flammable liquid and vapour.
H302+H312+H332 - Harmful if swallowed, in contact with skin or if inhaled
H314 - Causes severe skin burns and eye damage.

Precautionary statements (CLP) : P280 - Wear protective clothing, face protection, eye protection.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do. Continue rinsing.
P310 - Immediately call a POISON CENTER/doctor

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name : MORPHOLINE Extra Pure
CAS-No. : 110-91-8
EC-No. : 203-815-1
EC Index-No. : 613-028-00-9

MORPHOLINE Extra Pure

Safety Data Sheet

Full text of R- and H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------------------|---|
| First-aid measures after inhalation | : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| First-aid measures after skin contact | : Immediately call a POISON CENTER/doctor. Wash with plenty of water/.... Wash contaminated clothing before reuse. |
| First-aid measures after eye contact | : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. |
| First-aid measures after ingestion | : Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. |

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

| | |
|-------------------------------------|---|
| Symptoms/effects | : Causes severe skin burns and eye damage. |
| Symptoms/effects after inhalation | : Corrosive to the respiratory tract. |
| Symptoms/effects after skin contact | : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin. |
| Symptoms/effects after eye contact | : Causes serious eye damage. |
| Symptoms/effects after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| | |
|--------------------------------|--|
| Suitable extinguishing media | : Carbon dioxide. Dry powder. Foam. Water spray. |
| Unsuitable extinguishing media | : Do not use extinguishing media containing water. |

5.2. Special hazards arising from the substance or mixture

| | |
|------------------|--|
| Fire hazard | : Flammable liquid and vapour. |
| Explosion hazard | : May form flammable/explosive vapour-air mixture. |

5.3. Advice for firefighters

| | |
|--------------------------------|---|
| Protection during firefighting | : Do not enter fire area without proper protective equipment, including respiratory protection. |
|--------------------------------|---|

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| | |
|------------------|---|
| General measures | : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. |
|------------------|---|

6.1.1. For non-emergency personnel

| | |
|----------------------|-----------------------------------|
| Emergency procedures | : Evacuate unnecessary personnel. |
|----------------------|-----------------------------------|

6.1.2. For emergency responders

| | |
|----------------------|--|
| Protective equipment | : Use personal protective equipment as required. |
| Emergency procedures | : Ventilate area. |

6.2. Environmental precautions

Avoid release to the environment.

MORPHOLINE Extra Pure

Safety Data Sheet

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep or shovel into suitable containers. Collect spillage.

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Avoid contact with skin and eyes. Do not breathe vapours.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Comply with applicable regulations.
Storage conditions : Keep container tightly closed. Keep in fireproof place.
Incompatible materials : Heat sources.
Packaging materials : Do not store in corrodable metal.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Hand protection : protective gloves
Eye protection : Chemical goggles or face shield
Skin and body protection : Wear suitable protective clothing
Respiratory protection : [In case of inadequate ventilation] wear respiratory protection.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Molecular mass : 87.12 g/mol
Colour : Clear Colorless.
Odour : characteristic ammonia odour.
Odour threshold : No data available
pH : 10.6

MORPHOLINE Extra Pure

Safety Data Sheet

| | |
|--|--------------------------------|
| Relative evaporation rate (butylacetate=1) | : No data available |
| Melting point | : -7 - -5 °C |
| Freezing point | : No data available |
| Boiling point | : 126 - 130 °C |
| Flash point | : 31 °C |
| Auto-ignition temperature | : 310 °C |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Flammable liquid and vapour. |
| Vapour pressure | : 9 hPa at 20 °C |
| Relative vapour density at 20 °C | : 3.01 |
| Relative density | : No data available |
| Density | : 0.996 g/cm ³ |
| Solubility | : Water: Completely miscible |
| Log Pow | : 2.55 |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Explosive limits | : 0.018 - 0.108 vol % |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Open flame. Heat. Sparks.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

May release flammable gases. Thermal decomposition generates : Corrosive vapours.

MORPHOLINE Extra Pure

Safety Data Sheet

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| | |
|---|---|
| Acute toxicity | : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin. Inhalation: Harmful if inhaled. |
| Skin corrosion/irritation | : Causes severe skin burns and eye damage. pH: 10.6 |
| Serious eye damage/irritation | : Serious eye damage, category 1, implicit pH: 10.6 |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| STOT-single exposure | : Not classified |
| Additional information | : Corrosive to the respiratory tract. |
| STOT-repeated exposure | : Not classified |
| Aspiration hazard | : Not classified |
| Potential adverse human health effects and symptoms | : Harmful if swallowed. Harmful in contact with skin. |

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| MORPHOLINE Extra Pure (110-91-8) | |
|----------------------------------|------|
| Log Pow | 2.55 |

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

MORPHOLINE Extra Pure

Safety Data Sheet

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Additional information : Handle empty containers with care because residual vapours are flammable.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : 2054
UN-No. (IMDG) : 2054
UN-No. (IATA) : 2054
UN-No. (ADN) : 2054
UN-No. (RID) : 2054

14.2. UN proper shipping name

Proper Shipping Name (ADR) : MORPHOLINE
Proper Shipping Name (IMDG) : MORPHOLINE
Proper Shipping Name (IATA) : Morpholine
Proper Shipping Name (ADN) : MORPHOLINE
Proper Shipping Name (RID) : MORPHOLINE
Transport document description (ADR) : UN 2054 MORPHOLINE, 8 (3), I, (D/E)
Transport document description (IMDG) : UN 2054 MORPHOLINE, 8 (3), I (38°C o.c.)
Transport document description (IATA) : UN 2054 Morpholine, 8 (3), I
Transport document description (ADN) : UN 2054 MORPHOLINE, 8 (3), I
Transport document description (RID) : UN 2054 MORPHOLINE, 8 (3), I

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : 8 (3)
Danger labels (ADR) : 8, 3



IMDG

Transport hazard class(es) (IMDG) : 8 (3)
Danger labels (IMDG) : 8, 3



IATA

Transport hazard class(es) (IATA) : 8 (3)

MORPHOLINE Extra Pure

Safety Data Sheet

Hazard labels (IATA) : 8, 3



ADN

Transport hazard class(es) (ADN) : 8 (3)

Danger labels (ADN) : 8, 3



RID

Transport hazard class(es) (RID) : 8 (3)

Danger labels (RID) : 8, 3



14.4. Packing group

Packing group (ADR) : I

Packing group (IMDG) : I

Packing group (IATA) : I

Packing group (ADN) : I

Packing group (RID) : I

14.5. Environmental hazards

Dangerous for the environment : No

Marine pollutant : No

Other information : No supplementary information available

14.6. Special precautions for user

- Overland transport

Classification code (ADR) : CF1

Limited quantities (ADR) : 0

Excepted quantities (ADR) : E0

Packing instructions (ADR) : P001

Mixed packing provisions (ADR) : MP8, MP17

Portable tank and bulk container instructions (ADR) : T10

Portable tank and bulk container special provisions (ADR) : TP2

Tank code (ADR) : L10BH

Vehicle for tank carriage : FL

Transport category (ADR) : 1

Special provisions for carriage - Operation (ADR) : S2, S14

MORPHOLINE Extra Pure

Safety Data Sheet

Hazard identification number (Kemler No.) : 883

Orange plates :



Tunnel restriction code (ADR) : D/E

EAC code : •2W

APP code : A(fl)

- Transport by sea

Limited quantities (IMDG) : 0

Excepted quantities (IMDG) : E0

Packing instructions (IMDG) : P001

Tank instructions (IMDG) : T10

Tank special provisions (IMDG) : TP2

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-C

Stowage category (IMDG) : A

Flash point (IMDG) : 38°C o.c.

MFAG-No : 132

- Air transport

PCA Excepted quantities (IATA) : E0

PCA Limited quantities (IATA) : Forbidden

PCA limited quantity max net quantity (IATA) : Forbidden

PCA packing instructions (IATA) : 850

PCA max net quantity (IATA) : 0.5L

CAO packing instructions (IATA) : 854

CAO max net quantity (IATA) : 2.5L

ERG code (IATA) : 8F

- Inland waterway transport

Classification code (ADN) : CF1

Limited quantities (ADN) : 0

Excepted quantities (ADN) : E0

Carriage permitted (ADN) : T

Equipment required (ADN) : PP, EP, EX, A

Ventilation (ADN) : VE01

Number of blue cones/lights (ADN) : 1

- Rail transport

Classification code (RID) : CF1

Limited quantities (RID) : 0

Excepted quantities (RID) : E0

Packing instructions (RID) : P001

Mixed packing provisions (RID) : MP8, MP17

Portable tank and bulk container instructions (RID) : T10

Portable tank and bulk container special provisions (RID) : TP2

Tank codes for RID tanks (RID) : L10BH

Special provisions for RID tanks (RID) : TU38, TE22

Transport category (RID) : 1

Hazard identification number (RID) : 883

MORPHOLINE Extra Pure

Safety Data Sheet

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

No REACH Annex XVII restrictions

MORPHOLINE Extra Pure is not on the REACH Candidate List

MORPHOLINE Extra Pure is not on the REACH Annex XIV List

15.1.2. National regulations

Germany

Reference to AwSV : Water hazard class (WGK) 1, low hazard to water (Classification according to AwSV; ID No. 158)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : The substance is not listed

SZW-lijst van mutagene stoffen : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Borstvoeding : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Vruchtbaarheid : The substance is not listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen – Ontwikkeling : The substance is not listed

Denmark

Class for fire hazard : Class II-1

Store unit : 5 liter

Classification remarks : R10 <H226;H302+H312+H332;H314>; Emergency management guidelines for the storage of flammable liquids must be followed

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product
Pregnant/breastfeeding women working with the product must not be in direct contact with the product

15.2. Chemical safety assessment

No additional information available

SECTION 16: Other information

MORPHOLINE Extra Pure

Safety Data Sheet

Full text of R-, H- and EUH-statements:

| | |
|---------------------------|--|
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Inhalation) | Acute toxicity (inhal.), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Flam. Liq. 3 | Flammable liquids, Category 3 |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| H226 | Flammable liquid and vapour. |
| H302 | Harmful if swallowed. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H332 | Harmful if inhaled. |
| R10 | Flammable |
| R20/21/22 | Harmful by inhalation, in contact with skin and if swallowed |
| R34 | Causes burns |
| C | Corrosive |
| Xn | Harmful |

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product