

Revision Date 22-Jul-2014

Version 1

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Product identifier**

Product Code 46-103-RM
Product Name MOPS Buffer

CAS No 1132-61-2
Chemical Name 4-Morpholinopropanesulphonic acid
Synonyms 3-(N-Morpholino)propanesulfonic acid
Formula C₇H₁₅NO₄S
Pure substance/mixture Substance

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

For Research Use Only. Not Intended for Diagnostic or Therapeutic Use.

1.3. Details of the supplier of the safety data sheet

Mediatech Inc., A Corning Subsidiary Corning B.V.
9345 Discovery Blvd. Fogostaat 12
Manassas, VA 20109 1060 LJ Amsterdam, The Netherlands
USA +31-(0)20-6557928
+1.703.471.5955

For further information, please contact

E-mail address ScientificSupportEMEA@Corning.com

1.4. Emergency telephone number

Emergency Telephone Chemtrec: +1-800-424-9300 (USA), +1-703-527-3887 (International; Call collect), (REF: CCN 56 88)

Section 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture**

Regulation (EC) No 1272/2008

Skin corrosion/irritation	Category 2 (H315)
Serious eye damage/eye irritation	Category 2 (H319)
Specific target organ toxicity (single exposure)	Category 3 (H335)

2.2. Label elements**Product identifier**

Signal word
Warning

Hazard statements

H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H335 - May cause respiratory irritation

Precautionary Statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P271 - Use only outdoors or in a well-ventilated area
 P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 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
 P332 + P313 - If skin irritation occurs: Get medical advice/attention
 P337 + P313 - If eye irritation persists: Get medical advice/attention
 P362 - Take off contaminated clothing and wash before reuse

Classification according to Directive 67/548/EEC or 1999/45/EC

Xi - Irritant

**R-Phrases**

R36/37/38 - Irritating to eyes, respiratory system and skin

S phrases

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S36 - Wear suitable protective clothing

2.3. Other hazards

None known

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**3.1 Substances**

Synonyms 3-(N-Morpholino)propanesulfonic acid
Molecular weight 209.26 g/mol
CAS No 1132-61-2
Formula C₇H₁₅NO₄S

Chemical Name	EC No	CAS No	Weight-%	Classification according to 67/548/EEC	Classification according to Regulation (EC) No. 1272/2008 [CLP]
4-Morpholinepropanesulfonic acid	214-478-5	1132-61-2	100%	Xi; R36/37/38	Skin Irritation 2 (H317) Eye Irritation 2 (H319) STOT SE3 (H335)

The substance does not require registration according to REACH.

Full text of R-phrases: see section 16 .

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

Section 4: FIRST AID MEASURES**4.1. Description of first aid measures**

Inhalation

Remove to fresh air. If not breathing, give artificial respiration. Call a physician.

Skin Contact	Wash off immediately with soap and plenty of water. Remove contaminated clothing and shoes. Call a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to an unconscious person. Call a physician.

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

Symptoms	See Section 11: TOXICOLOGICAL INFORMATION.
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4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians	Treat symptomatically.
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Section 5: FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous combustion products

Carbon oxides, Nitrogen oxides (NOx), Oxides of sulfur

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required.

Section 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Use personal protective equipment as required. Avoid creating dust. Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Avoid breathing dust/fume/gas/mist/vapors/spray.
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For emergency responders	Use personal protection recommended in Section 8.
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6.2. Environmental precautions

Collect spillage. Prevent product from entering drains.

6.3. Methods and material for containment and cleaning up

Methods for containment	Prevent further leakage or spillage if safe to do so.
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Methods for cleaning up	Avoid creating dust. Cover powder spill with plastic sheet or tarp to minimize spreading. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains.
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6.4. Reference to other sections

See Section 13: DISPOSAL CONSIDERATIONS, Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Section 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

This product is for research and development only.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

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

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Engineering Controls Ensure adequate ventilation, especially in confined areas. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly after handling.

Personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Hand Protection Wear protective nitrile rubber gloves.

Skin and body protection Suitable protective clothing.

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment.

Recommended Filter type: N99 (US); P2 (EU EN 143).

Environmental exposure controls Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical state	Solid	Odor	No information available
Appearance	crystalline powder	Odor threshold	No information available
Color	white		
Property		Values	Remarks • Method
pH	No information available		
Melting point/freezing point	277 °C / 531 °F		
Boiling point / boiling range	No information available		
Flash point	110 °C / 230 °F		
Evaporation rate	No information available		
Flammability (solid, gas)	No information available		
Flammability Limit in Air			
Upper flammability limit:	No information available		
Lower flammability limit	No information available		
Vapor pressure	No information available		
Vapor density	No information available		

Specific Gravity	No information available
Water solubility	Soluble in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Explosive properties	No information available
Oxidizing properties	No information available
Molecular weight	209.26 g/mol

9.2. Other information

No information available

Section 10: STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal processing.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Strong oxidizing agents, Strong bases.

10.6. Hazardous decomposition products

None under normal use conditions

May emit toxic fumes under fire conditions

Carbon oxides, Nitrogen oxides (NOx), Oxides of sulfur.

Section 11: TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects****Acute toxicity**

Oral LD50	> 2000 mg/kg (rat)
Dermal LD50	No data available
Inhalation LC50	No data available

Skin corrosion/irritation

Irritating to skin

Serious eye damage/eye irritation

Irritating to eyes.

Sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP

Reproductive toxicity

No information available.

STOT - single exposure

May cause respiratory irritation.

STOT - repeated exposure

No information available.

Aspiration hazard

No information available.

Potential health effects**Inhalation**

May be harmful if inhaled. Irritating to respiratory system.

Ingestion	May be harmful if swallowed.
Skin	Causes skin irritation. May be harmful in contact with skin.
Eyes	Causes eye irritation.
Symptoms	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
4-Morpholinepropanesulfonic acid	-	-	EC50 Daphnia Magna (water flea) >100 mg/L (48hr)

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

IMDG

14.1 UN/ID No.	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine pollutant	Not Applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

RID

14.1 UN/ID No.	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not Applicable

14.6 Special Provisions**ADR**

14.1 UN/ID No.	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not Applicable
14.6 Special Provisions	None

ICAO (air)

14.1 UN/ID No.	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not Applicable
14.6 Special Provisions	None

IATA

14.1 UN/ID No.	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not Applicable
14.6 Special Provisions	None

Section 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Water hazard class (WGK) slightly hazardous to water (WGK 1)

European Union

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

International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
4-Morpholinepropanesulfonic acid	X	X	-	X	-	-	X	-	-	X

Legend

X = Listed, - = Not Listed

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

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

No information available

Section 16: OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R36/37/38 - Irritating to eyes, respiratory system and skin

Full text of H-Statements referred to under sections 2 and 3

H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Version 1

Revision Date 22-Jul-2014
Revision Note Not Applicable.

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006

Disclaimer

To the best of our knowledge, the information contained herein is accurate. However, neither Corning Incorporated nor any of its subsidiaries assumes any liabilities whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

End of Safety Data Sheet