

## SECTION 1 – IDENTIFICATION

**Product Identifier:** MOPS  
Ultra Pure Grade

**Catalogue Number:** 3040

**Other means of identification:** 3-(N-Morpholino)propanesulfonic acid  
4-Morpholinepropanesulfonic acid

**Recommended use of the chemical and restrictions on use:**  
For R&D use only. Not for pharmaceutical, household or other uses.

### Supplier Information:

Axil Scientific Pte Ltd  
41 Science Park Road  
#04-08 The Gemini  
Singapore Science Park II  
Singapore 117610  
Tel: +65 6775 7318  
Fax: +65 6775 7211  
Email: [info@axilscientific.com](mailto:info@axilscientific.com)

Apical Scientific Sdn Bhd  
No 7-1 to 7-4 Jalan SP 2/7  
Taman Serdang Perdana, Seksyen 2  
Seri Kembangan 43300  
Selangor Darul Ehsan, Malaysia  
Tel: +603 8943 3252  
Fax: +603 8943 3243  
Email: [custcare@apicalscientific.com](mailto:custcare@apicalscientific.com)

### Emergency phone number:

Monday – Friday, 8:00 a.m. to 6:00 p.m.  
+65 6775 7318 (Singapore)  
+603 8943 3252 (Malaysia)

## SECTION 2 – HAZARDS IDENTIFICATION

### GHS Classification:

Skin irritation, Category 2  
Eye irritation, Category 2  
Specific target organ toxicity – single exposure, Category 3

### GHS Hazard Pictogram(s):



**Signal Word:** Warning

### Hazards statements:

H315: Causes skin irritation.  
H319: Causes serious eye irritation.  
H335: May cause respiratory irritation.

## Precautionary statements:

### Prevention:

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264: Wash hands and skin thoroughly after handling.  
P271: Use only outdoors or in a well-ventilated area.  
P280: Wear protective gloves/protective clothing/eye protection/face protection.

### Response

P302 + P352: IF ON SKIN: Wash with 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/physician 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.

### Storage

P403 + P233: Store in a well-ventilated place and keep container tightly closed.  
P405: Store locked up.

### Disposal

P501: Dispose of contents/container in accordance with federal, state and local environmental regulations.

## SECTION 3 – COMPOSITION/ INFORMATION ON INGREDIENTS

|                           |  |
|---------------------------|--|
| <b>Chemical Identity:</b> | MOPS, Free Acid  |
| <b>Synonyms:</b>          | 3-(N-Morpholino)propanesulfonic acid<br>4-Morpholinepropanesulfonic acid |
| <b>Molecular Formula:</b> | C <sub>7</sub> H <sub>15</sub> NO <sub>4</sub> S                         |
| <b>Molecular Weight:</b>  | 209.3 g/mol  |
| <b>CAS No.:</b>           | 1132-61-2  |
| <b>EC No.:</b>            | 214-478-5  |

## SECTION 4 – FIRST-AID MEASURES

### Eye Contact

Immediately flush eyes with copious amounts of water for at least 15 minutes. Immediately call in ophthalmologist.

### Skin Contact

Immediately wash skin thoroughly with soap and copious amounts of water. Consult a physician.

### Inhalation

Remove to fresh air. If not breathing, give artificial respiration or if breathing is difficult, give oxygen.

### Ingestion

Never give anything by mouth to an unconscious person. Rinse mouth with water.

### Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

### Indication of immediate medical attention and special treatment needed

Data not available.

## SECTION 5 – FIRE-FIGHTING MEASURES

### Extinguishing Media

Use water spray, dry chemical powder, carbon dioxide or alcohol-resistant foam.

### Special Exposure Hazards

Carbon oxides, nitrogen oxides, sulfur oxides

### Special Fire-fighting Procedures

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## SECTION 6 – ACCIDENTAL RELEASE MEASURES

### Personal Precautions

Prevent skin/eye contact. Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Avoid breathing dust.

### Environmental Precautions

Do not allow material into sewers and drainage systems.

### Methods for Cleaning Up

Clean up spills immediately, observing precautions in the safety data sheet and label. Minimize dust generation. Dispose into a chemical waste container.

## SECTION 7 – HANDLING AND STORAGE

### Precautions for safe handling

Prevent skin/eye contact. Use personal protective equipment. Avoid dust formation. Ensure adequate ventilation. Avoid breathing dust. Wash thoroughly after handling. Remove contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

Store in tightly closed container in a cool, dry and well-ventilated area.

## SECTION 8 – EXPOSURE CONTROLS/ PERSONAL PROTECTION

### Occupational Exposure Limits

We are not aware of any national exposure limit.

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice.

### Eye/ Face Protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

## Skin/ Hand Protection

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Splash contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

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 construed as offering an approval for any specific use scenario.

## Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## Respiratory Protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

|    |  |                      |
|----|--|----------------------|
| a) | <b>Appearance</b>                              | White solid          |
| b) | <b>Odour</b>                                   | Characteristic odour |
| c) | <b>Odour Threshold</b>                         | Not available        |
| d) | <b>pH</b>                                      | Not available        |
| e) | <b>Melting/freezing point</b>                  | 277°C - 280°C        |
| f) | <b>Initial boiling point and boiling range</b> | Not available        |
| g) | <b>Flash point</b>                             | Not available        |
| h) | <b>Evaporation rate</b>                        | Not available        |
| i) | <b>Flammability (solid, gas)</b>               | Not available        |

|    |   |               |
|----|---|---------------|
| j) | <b>Upper/lower flammability or explosive limits</b> | Not available |
| k) | <b>Vapour pressure (mm Hg)</b>                      | Not available |
| l) | <b>Vapour density</b>                               | Not available |
| m) | <b>Relative density</b>                             | Not available |
| n) | <b>Solubility (ies)</b>                             | Not available |
| o) | <b>Partition coefficient: n-octanol/water</b>       | Not available |
| p) | <b>Autoignition temperature</b>                     | Not available |
| q) | <b>Decomposition temperature</b>                    | Not available |
| r) | <b>Viscosity</b>                                    | Not available |

## SECTION 10 – STABILITY AND REACTIVITY

### Reactivity

Data not available.

### Chemical stability

Data not available.

### Possibility of hazardous reactions

Data not available.

### Conditions to avoid

Data not available.

### Incompatible material

Strong oxidizing agents, strong bases.

### Hazardous decomposition products

Data not available.

## SECTION 11 – TOXICOLOGICAL INFORMATION

### Acute toxicity

Oral (LD50): > 2,000 mg/kg [Rat]

### Skin corrosion/irritation

Data not available.

### Serious eye damage/eye irritation

Data not available.

**Respiratory or skin sensitization**

Data not available.

**Germ cell mutagenicity**

Data not available.

**Carcinogenicity**

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.

**Reproductive toxicity**

Data not available.

**Specific target organ toxicity – single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity – repeated exposure**

Data not available.

**Aspiration hazard**

Data not available.

**Other information**

RTECS: QE9104530

**SECTION 12 – ECOLOGICAL INFORMATION****Toxicity**

EC50: > 100 mg/l; 48 hr [Daphnia magna]

**Persistence and degradability**

Data not available.

**Bioaccumulative potential**

Data not available.

**Mobility in soil**

Data not available.

**Other adverse effect**

Data not available.

**SECTION 13 – DISPOSAL CONSIDERATIONS****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging**

Dispose off as unused product.

## SECTION 14 – TRANSPORT INFORMATION

### UN Number

ADR/RID: -

IMDG: -

IATA-DGR: -

### UN Proper Shipping Name:

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA-DGR: Not dangerous goods

### Transport Hazard Class(es)

ADR/RID: -

IMDG: -

IATA-DGR: -

### Packing Group

ADR/RID: -

IMDG: -

IATA-DGR: -

### Environmental Hazards

ADR/RID: no

IMDG: marine pollutant: no

IATA-DGR: no

### Special Precaution for Users

Data not available

## SECTION 15 – REGULATORY INFORMATION

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

Data not available

## SECTION 16 – OTHER INFORMATION

**Date of Issue:** JULY 11, 2008

**Date of Revision:** MAY 01, 2017

*The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. Axil Scientific Pte Ltd shall not be held liable for any damage resulting from handling or from contact with the above product.*