

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product Name : 4.0 M Trimethylamine N-oxide dihydrate  
Product Number : HR2-857  
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.  
CAS Number : 62637-93-8

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

Identified uses : Laboratory chemicals, Manufacture of substances.

**1.3 Details of the supplier of the Safety Data Sheet**

Company : Hampton Research  
34 Journey  
Aliso Viejo, CA 92656-3317  
United States  
Telephone : 949 425 1321  
Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.  
Fax : 949 425 1611  
Fax Technical Support is available 24 hours a day.  
e-mail : tech@hrmail.com  
e-mail Technical Support is available 24 hours a day.

**1.4 Emergency telephone number**

Emergency phone : 949 425 1321  
For CHEMTREC Assistance : 800 424 9300  
For CHEMTREC Assistance : 703 527 3887 (International)

**SECTION 2: Hazards Identification****2.1 Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

Skin irritation (Category 2)

Serious eye damage (Category 1), H318

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

Irritating to eyes and skin.

## (CONTINUED) - SECTION 2: Hazards Identification

### 2.2 Label elements

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

Pictogram



Signal word : Warning

Hazard statement(s)

H315 : Causes skin irritation.

H319 : Causes serious eye irritation.

Precautionary statement(s)

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

Supplemental Hazard Statements : none

#### According to European Directive 67/548/EEC as amended.

Hazard symbol(s)



R-phrase(s)

R36/38 : Irritating to eyes and skin.

S-phrase(s)

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

## SECTION 3: Composition/Information on Ingredients

### 3.1 Substances

<b>Synonym</b>	: TMANO, TMAO
<b>Formula</b>	: $(\text{CH}_3)_3\text{NO} \cdot 2\text{H}_2\text{O}$ $\text{C}_3\text{H}_9\text{NO} \cdot 2\text{H}_2\text{O}$
<b>Molecular Weight</b>	: 111.14
<b>CAS Number</b>	: 62637-93-8
<b>EC Number</b>	: 214-675-6

RTECS	Merck	Beilstein	SARA	MDL #	PubChem Substance ID
YH2850000	14,9711	4(4)144	No	MFCD00002048	N/A

## (CONTINUED) - SECTION 3: Composition/Information on Ingredients

Component	Concentration
<b>Trimethylamine, N-oxide</b>	
CAS-No. 62637-93-8	-
EC-No. 214-675-6	

## SECTION 4: First Aid Measures

### 4.1 Description of first aid measures

#### General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 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. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

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

no data available

## SECTION 5: Fire Fighting Measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

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

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO<sub>x</sub>)

### 5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

### 5.4 Further Information

no data available

## SECTION 6: Accidental Release Measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

Ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.

### 6.2 Environmental precautions

Do not let product enter drains.

### 6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For disposal see section 13.

## SECTION 7: Handling and Storage

### 7.1 Personal Precautions

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

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

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure Controls/Personal Protection

### 8.1 Control parameters

**Components with workplace control parameters**

### 8.2 Exposure controls

#### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin 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.

## (CONTINUED) - SECTION 8: Exposure Controls/Personal Protection

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

Immersion protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 480 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: > 30 min

Material tested: Dermatril® (Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

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

impervious clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

- |  |                   |              |
|--|-------------------|--------------|
| a) Appearance                              | Form: crystalline | Color: white |
| b) Odor                                    | no data available |              |
| c) Odor Threshold                          | no data available |              |
| d) pH                                      | no data available |              |
| e) Melting point/freezing point            | no data available |              |
| f) Initial boiling point and boiling range | no data available |              |
| g) Flash point                             | no data available |              |
| i) Flammability (solid, gas)               |                   |              |

## (CONTINUED) - SECTION 9: Physical and Chemical Properties

k) Vapor pressure	no data available
l) Vapor density	no data available
m) Relative density	no data available
n) Water solubility	no data available
o) Partition coefficient: noctanol/water	no data available
p) Autoignition temperature	no data available
q) Decomposition temperature	no data available
r) Viscosity	no data available
s) Explosive properties	no data available
t) Oxidizing properties	no data available

### 9.2 Other safety information

Surface tension	no data available
Relative vapour density	no data available

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

acids, Acid chlorides, Acid anhydrides, Oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - rat - 8.700 mg/kg

#### Skin irritation / corrosion

no data available

## (CONTINUED) - SECTION 11: Toxicological Information

### **Serious eye damage/eye irritation**

Eyes - rabbit

Result: Corrosive to eyes

### **Respiratory or skin sensitization**

no data available

### **Germ cell mutagenicity**

no data available

### **Chronic exposure**

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**

no data available

### **Specific target organ toxicity - single exposure**

no data available

### **Specific target organ toxicity - repeated exposure**

no data available

### **Aspiration hazard**

no data available

### **Signs and Symptoms of Exposure**

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

### **Additional information**

RTECS: AF1225000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea, Vomiting, Ingestion or inhalation of concentrated acetic acid causes damage to tissues of the respiratory and digestive tracts. Symptoms include: hematemesis, bloody diarrhea, edema and/or perforation of the esophagus and pylorus, pancreatitis, hematuria, anuria, uremia, albuminuria, hemolysis, convulsions, bronchitis, pulmonary edema, pneumonia, cardiovascular collapse, shock, and death. Direct contact or exposure to high concentrations of vapor with skin or eyes can cause: erythema, blisters, tissue destruction with slow healing, skin blackening, hyperkeratosis, fissures, corneal erosion, opacification, iritis, conjunctivitis, and possible blindness., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## SECTION 12: Ecological Information

### 12.1 Toxicity

Toxicity to fish semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - > 1.000 mg/l - 96h  
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - > 300,82 mg/l - 48 h  
(OECD Test Guideline 202)

### 12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 30 d  
Result: 99 % - Readily biodegradable.  
Remarks: Expected to be biodegradable

### 12.3 Bioaccumulative potential

no data available

### 12.4 Mobility in soil

no data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

no data available

## SECTION 13: Disposal Considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

## SECTION 14: Transportation Information

### 14.1 UN number

ADR/RID: 2789

IMDG: 2789

IATA: 2789

### 14.2 UN proper shipping name

ADR/RID: ACETIC ACID, GLACIAL

IMDG: ACETIC ACID, GLACIAL

IATA: Acetic acid, glacial

### 14.3 Transport hazard class(es)

ADR/RID: 8 (3)

IMDG: 8 (3)

IATA: 8 (3)



## (CONTINUED) - SECTION 14: Transportation Information

### 14.4 Packaging group

ADR/RID: II                                      IMDG: II                                      IATA: II

### 14.5 Environmental hazards

ADR/RID: no                                      IMDG Marine pollutant: no                                      IATA: no

### 14.6 Special precautions for user

no data available

## SECTION 15: Regulatory Information

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

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

no data available

### 15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

## SECTION 16: Other Information

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

Flam. Liq.	Flammable liquids
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
Skin Corr.	Skin corrosion

### Full text of R-phrases referred to under sections 2 and 3

C	Corrosive
R10	Flammable.
R35	Causes severe burns.

### DISCLAIMER

For research use only. Not for drug, household, or other use.

### WARRANTY

The above information is believed to be correct but does no 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. It does not represent any guarantee of the properties of this product. Hampton Research Corp., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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