Material Safety Data Sheet

Product Name	Methane Sulfonic Acid

Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification:

Product Description: Methane sulfonic acid

Synonyms: Methylsulfonic acid, MSA

CAS-No: 75-75-2

EC-No.: 200-898-6

Molecular Formula: CH_4O_3S

REACH Registration No: A registration number is not available for this substance as the substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Recommended Use: Laboratory chemicals, for synthesis

1.3. Details of the supplier of the safety data sheet:

- **Company** — **Finar Limited**
  184-186/P, Chacharwadi Vasna,
  Sarkhej-Bavla Highway,
  Ta.: Sanand, Dist.: Ahmedabad,
  Email: info@finarchemicals.com
  Web: www.finarchemicals.com
- **E-Mail Address** — safety@finarchemicals.com; info@finarchemicals.com

1.4. Emergency Telephone Number:

- For Emergency contact on: +91 - 2717 - 616 717
- Registered office No: +91 - 79 – 40040085

Product Name	Methane Sulfonic Acid

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008

Corrosive to metals, Category 1, H290

Acute toxicity, Category 4, Oral, H302

Acute toxicity, Category 4, Dermal, H312

Skin Corrosion, category 1B, H314

Specific target organ toxicity- single exposure, Category 3, Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2. Label Elements:

Labeling according Regulation (EC) No 1272/2008

Pictogram

Signal word **Danger**

Hazard statement(s)

H290 May be corrosive to metals.

H302 + H312 Harmful if swallowed or in contact with skin.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Precautionary statement(s)

Prevention

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

Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

Reduced labelling (≤125 ml)

Pictogram

Signal word **Danger**

Hazard statement(s)

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)

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

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

CAS- No. 75-75-2

2.3. Other Hazards:

None Known

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances: Methane Sulfonic Acid

3.2. Mixtures:

Component	CAS-No	EC-No.	Weight %
Methane Sulfonic Acid	75-75-2	200-898-6	>95

Product Name	Methane Sulfonic Acid

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

- **General advice**

  First aider needs to protect himself.
- **If inhaled**

  Fresh air. Call in physician.
- **If Contact with skin**

  Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
- **In case of eye contact**

  Rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.
- **If swallowed**

  Make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralise.

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

Irritation and corrosion, Cough, Headache, Nausea, Vomiting, Dizziness, Lung oedema, Shortness of Breath.

Risk of blindness!

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

No information available

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

Suitable Extinguishing Media- Use of dry chemical or carbon dioxide.

Unsuitable extinguishing media- Water, Foam

5.2. Special hazards arising from the substance or mixture:

Combustible.

May not get in touch with: Water

The product reacts with water and generates heat.

Vapours are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Fire may cause evolution of: Sulphur oxides

5.3. Advice for firefighters:

Special protective equipment for fire-fighters

Stay in danger area only with self-contained breathing apparatus.

Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further Information:

Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

6.2. Environmental precautions:

Do not let product enter drains.

6.3. Methods and material for containment and cleaning up:

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly.

Clean up affected area.

6.4. Reference to other sections:

For disposal see Sections 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Use only under a chemical fume hood. Wear personal protective equipment/face protection.

Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing.

Wash hands and face after working with substance.

7.2. Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a dry, cool and well-ventilated place.

Protect from direct sunlight. Corrosives area.

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

Contains no substances with occupational exposure limit values.

8.2. Exposure Controls:

- **Appropriate Engineering Controls:**

  Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

  See section 7.1.

  Personal Protective Equipment:

  Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

  Eye & Face Protection-

  Tightly fitting safety goggles

  Hand Protection -

  Full contact: -

Glove Material:	Polychloroprene
Glove Thickness:	0.65 mm
Break Through Time:	480 min

  Other Protective equipment-

  Acid-resistant protective clothing

  Respiratory Protection-

  Required when vapours/aerosols are generated.

Recommended Filter type: Filter B- (acc. To DIN 3181) for inorganic gases and vapours

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Environmental Exposure Controls-

Do not let product enter drains.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

- **Appearance:** Colorless
- **Physical State:** Liquid
- **Odour:** Odourless
- **Odour Threshold:** No data available
- **pH:** < 1
- **Melting Point:** 19°C
- **Critical Temperature:** No data available
- **Vapor Pressure:** < 1 hPa at 20 °C
- **Relative Vapor Density:** No data available
- **Density:** 1.48 g/cm3 at 20 °C
- **Auto-Ignition Temperature:** 535 °C
- **Decomposition Temperature:** >180°C
- **Volatility:** No data available
- **Bulk Density:** No data available
- **Viscosity:** 11.6 mPa.s @ 25°C
- **Water/Oil Dist. Co eff.:** No data available
- **Ionicity (in Water):** No data available
- **Lower Explosion Limit:** 11.4 vol %
- **Upper Explosion Limit:** 24.3 vol %
- **Boiling Point/Range:** 167°C at 13 hPa
- **Flash Point:** 189°C

- **Specific Gravity:** 1.48 g/cm^3
- **Water Solubility:** 1000 g/l at 20°C

9.2. Other information:

Molecular Formula: CH_4O_3S

Molecular Weight: 96.1 g/mol

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Forms explosive mixtures with air on intense heating.

10.2. Chemical stability:

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions: -

Violent reactions possible with: Strong alkalis, Oxidizing agents, strong reducing agents, Amines, Hydrogen fluoride, acids, strong alkalis, Bases

Risk of explosion/exothermic reaction with: Water, Hydrogen fluoride

10.4. Conditions to avoid:

Strong Heat

10.5. Incompatible materials:

Various metals, i.a., Iron, Copper, brass, Mild steel

10.6. Hazardous decomposition products:

In the event of fire: See section 5.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral toxicity

LD50 Rat: 649 mg/kg

OECD Test Guideline 401

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the

oesophagus and the stomach.

Acute Inhalation toxicity

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Lung oedema, Symptoms may be delayed.

Acute Dermal toxicity

LD50 Rabbit: > 1,000 mg/kg

OECD Test Guideline 402

Skin corrosion/irritation

In vitro study

Result: Causes burns.

OECD Test Guideline 435

Causes burns.

Serious eye damage/eye irritation

Rabbit

Result: Causes burns

OECD Test Guideline 405

Causes serious damage.

Risk of blindness!

Respiratory or skin sensitization

Buehler Test Guinea pig

Result: negative

Method: OECD Test Guideline 406

Germ cell mutagenicity

Genotoxicity in vivo

In vivo micronucleus test
Mouse

male and female

oral

Bone marrow

Result: negative

Method: OECD Test Guideline 474

Genotoxicity in vitro

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

In vitro mammalian cell gene mutation test

Result: negative

Method: OECD Test Guideline 476

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation. Target Organs: Respiratory system

Specific target organ toxicity - repeated exposure

No data available

Repeated dose toxicity

Rat

male and female

Inhalation

Dust/mist

28 d

daily

NOAEL: 0.242 mg/l

OECD Test Guideline 412

Subacute toxicity

Aspiration hazard

No data available

11.2 Further Information

After absorption:

Nausea, Vomiting, Dizziness, Headache

Other dangerous properties cannot be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Product Name	Methane Sulfonic Acid

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

Toxicity to fish:

Static test LC50 Oncorhynchus mykiss (rainbow trout): 73 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates:

Static test EC50 Daphnia magna (Water flea): 70 mg/l; 48 h

Analytical monitoring: yes

OECD Test Guideline 202

Toxicity to algae

Static test EC50 Pseudokirchneriella subcapitata (green algae): 12 - 24 mg/l; 72 h

Analytical monitoring: yes

OECD Test Guideline 201

Toxicity to bacteria

Static test EC50 activated sludge: > 1,000 mg/l; 0.5 h

OECD Test Guideline 209

12.2 Persistence and degradability:

Biodegradability

>90%; 28 d; aerobic

OECD Test Guideline 301A

Readily biodegradable

12.3 Bioaccumulate potential:

No data available

12.4 Mobility in soil:

No data available

12.5 Results of PBT and vPvB assessment:

Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

12.6 Other adverse effects:

Discharge into the environment must be avoided.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

	Land transport (ADR/RID)	Air transport (IATA)	Sea transport (IMDG)
14.1 UN number	UN 3265		
14.2 Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (METHANESULFONIC ACID)		
14.3 Class	8		
14.4 Packing group	II		
14.5 Environmentally hazardous	--		
14.6 Special precautions for user	Yes Tunnel Restriction code – E	No	Yes EmS F-E S-D Segregation 0001 Acids
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not Relevant			

SECTION 15: Regulatory information

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

National Legislation

Storage class 6.1 A

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.

H290 May be Corrosive to metals.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H335 May cause respiratory irritation.

Training advice

Provide adequate information, instruction and training for operators.

Labelling

Pictogram

Signal word **Danger**

Hazard statement(s)

H290 May be corrosive to metals.

H302 + H312 Harmful if swallowed or in contact with skin.

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H335 May cause respiratory irritation.

Precautionary statement(s)

Prevention

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Response

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Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

References: Not available

Created: 17/08/2020

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