



Chemistry for Safer, Sustainable Life

SAFETY DATA SHEET

Section 1: Identification

Product Name: 2-Hydroxyethyl ammonium formate
CAS Synonym: Ethanolamine formic acid salt
CAS: 53226-35-0
Molecular Formula: C₃H₉NO₃
Molecular weight: 107.11g/mol
Product ID: MEAFO-001
Potential Uses: Solvent, reagent, electrolyte, additive
Product Supplier: BioFuran Materials LLC
920 William Pitt Way, Pittsburgh, PA 15238

In an emergency or for information about this SDS, call: 412-376-7101

Section 2: GHS Hazard(s) Identification

Hazard Classification: Substance not fully tested yet. Exercise caution when handling this substance

Signal Word(s): Warning

Hazard Statements: Substance not fully tested yet. Hazards have not been classified yet.

Pictograms:



Precautionary Statements:

P262 – If in eyes, rinse thoroughly with water for several minutes. Wear eye protection / face protection
P264 – Wash hands thoroughly after handling
P280 – Wear protective gloves / protective clothing, eye protection / face protection
P302+P352 – If on skin, wash with plenty of soap and water
P332+P313 – If skin irritation occurs, get medical advice / attention
P305+P351+P338 – If in eyes, rinse thoroughly with water for several minutes. Remove contact lenses if present. Continue rinsing for several minutes.
P337+P313 – If eye irritation persists, get medical advice/attention
P362+P364 – Take off contaminated clothing and wash them before reuse.

Description of other hazards: none available, substance not fully tested yet.

Section 3: Composition/ Information on Ingredients

| Chemical Name | Synonym | CAS# | Conc. |
|---|-------------------------------|------------|---------|
| 2-Hydroxyethyl ammonium formate | Ethanolamine formic acid salt | 53226-35-0 | 95-100% |
| Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335 | | | |
| Section 4: First-Aid Measures | | | |
| <p>After skin contact: Wash off with soap and plenty of water. Consult a physician.</p> <p>After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.</p> <p>After inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.</p> <p>After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth thoroughly with water. Consult a physician.</p> | | | |
| Section 5: Fire-Fighting Measures | | | |
| <p>Fire hazards: Burning of substance in fire releases toxic gases. In case of a fire, wear self-contained breathing apparatus as combustion may produce hazardous fumes.</p> <p>Suitable extinguishing agents: Use water spray, sand, dolomite, dry chemical or carbon dioxide.</p> <p>Special protective equipment for firefighters: Do not enter fire area without proper protective equipment, including respiratory protection. Avoid contact with skin and eyes. Do not breathe dust.</p> | | | |
| Section 6: Accidental Release Measures | | | |
| <p>Personal precautions: Wear protective equipment and avoid inhalation of fumes as well as eye and/or skin contact.</p> <p>Measures for environmental protection: Do not dispose product or its residues in municipal sewers or drains. Notify authorities if product enters sewers or public waters.</p> <p>Measures for cleaning/collecting: Pick up and arrange disposal without creating splashes or fumes. Mop up any spillages and keep all product wastes and residues in suitable, closed containers for proper disposal.</p> | | | |
| Section 7: Handling and Storage | | | |
| <p>Handling: Keep away from heat, sparks, and open flames. Do not use substance in confined spaces without adequate ventilation. Avoid contact with skin and eyes. Use a respirator when working in poorly ventilated spaces.</p> <p>Storage: Keep container tightly closed in a dry, well ventilated area.</p> | | | |
| Section 8: Exposure Controls/Personal Protection | | | |

Protection of hands: Neoprene or nitrile rubber gloves. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact. Dispose used gloves after use in line with good laboratory practices.

Body protection: Wear chemical resistant aprons, coveralls, or lab coats.

Eye protection: Chemical goggles with side shields conforming to NIOSH (US). Contact lenses should not be worn.

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

Breathing equipment: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. NIOSH-certified P95 respirator is recommended.

Section 9: Physical and Chemical Properties

Form: Colorless to yellow viscous liquid

Odor: No characteristic odor

Odor threshold: No data available

pH: No data available

Melting point/melting range: -84 to -80°C

Boiling point/boiling range: Decomposes around 145-155°C

Flash point: No data available

Flammability: No data available

Vapor pressure: No data available

Solubility in/Miscibility with water: Soluble in water

Viscosity: 100-110 Cp (@ 25°C)

Surface tension: 65-75 mN/m

Relative density: 1.0-1.3g/mL

Conductivity: 3.1-3.5 mS/cm⁻¹

Section 10: Stability and Reactivity

Reactivity: No particular reactivity concerns

Chemical stability: Stable under ambient conditions

Conditions to avoid: Avoid contact strong oxidizers or bases

Incompatible materials: Hydroxides, soluble carbonates, strong oxidizing agents, sulfuric acid

Hazardous decomposition products: Oxides of carbon (CO_x) and nitrous gases (NO_x)

Section 11: Toxicological Information

Acute toxicity: No data available

Potential routes of exposure/potential health effects

Skin: Causes skin irritation

Eye: Causes eye irritation

Inhalation: May cause irritation

Ingestion: No data available

Carcinogenic effects: No data available

Mutagenic effects: No data available

Reproductive toxicity: No data available

Sensitization: No data available
Target organs: No data available

Section 12: Ecological Information (non-mandatory)

Ecotoxicity: No data available
Mobility: No data available
Biodegradation: No data available
Bioaccumulation: No data available
Avoid disposal in public sewers and drains

Section 13: Disposal Considerations (non-mandatory)

This material or its residues should not be disposed in drains or in regular trash cans. Contact a licensed waste disposal professional to dispose this material or its residues.

Section 14: Transport Information (non-mandatory)

DOT regulations: Not classified as dangerous goods

- **Land transport ADR/RID (cross-border):** Not classified as dangerous for road transport
- **Maritime transport IMDG:** Not classified as dangerous for sea transport
- **Air transport ICAO-TI and IATA-DGR:** Not classified as dangerous for air transport

Section 15: Regulatory Information (non-mandatory)

P262: Avoid contact of substance with eyes, skin, or on personal clothing.
P280: Wear nitrile gloves, apron (or lab coat), goggles, and face protection
P305 + P351 + P338: If in the eyes, remove contact lenses if present and rinse continuously with water for several minutes
P313: Get medical attention / advice
S24/25: Avoid contact with the skin or eyes
S26: In case of contact with the skin or eyes, rinse immediately with plenty of water and seek medical advice
S28: In case of contact with the skin, wash immediately with plenty of water and soap
S36/37/39: Wear suitable protective clothing including lab coat, safety goggles, nitrile gloves, and face protection

2-Hydroethylammonium formate is listed on the United States TSCA

Section 16: Other Information

SDS date of preparation/update: 05/27/2020 Version 001