

SAFETY DATA SHEET



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ISOBUTYRIC ANHYDRIDE

SDS No. M0252

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Isobutyric Anhydride

Synonyms: 2-Methylpropionic anhydride.

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

2. HAZARDS IDENTIFICATION



Classification:

Acute Toxicity, Oral: GHS Category 4

Acute Toxicity, Dermal: GHS Category 3

Skin Corrosion: GHS Category 1

Eye Damage: GHS Category 1

Label Elements

Signal Word: DANGER!

Hazard Statements:

H227 - Combustible liquid.

H301 – Toxic if swallowed.

H311 – Toxic in contact with skin.

H314 – Causes severe skin burns and eye damage.

Precautionary Statements:

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

P301+P310 – If SWALLOWED: Immediately call or POISON CENTER or a doctor/physician.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 - IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

Emergency Overview

Corrosive. Causes burns by all exposure routes. Harmful if swallowed or absorbed through the skin. Combustible liquid and vapor.

Clear focus. Consistent results. Complete confidence.

HMIS Rating:

Health – 3 Flammability – 2 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents minimal hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Isobutyric Anhydride	97-72-3	>90%	Yes

4. FIRST-AID MEASURES

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give oxygen. If not breathing, begin artificial respiration. Get medical attention.

Ingestion: If swallowed, get medical attention immediately; DO NOT induce vomiting. Give victim plenty of water. Never give anything by mouth to an unconscious person. If not breathing, begin artificial respiration.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately.

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately. Continue rinsing during transport.

Notes to Physician: Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

Flammability: Combustible Flammable liquid (GHS Category 4)

Auto-ignition Temperature: No information available

Flash Point: 68° C (154° F)

Flammable Limits: Lower Limit – 1.09 % vol, Upper Limit – 7.7 % vol

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products.

Specific Explosion Hazards: No information available.

Fire Fighting Media: Water spray, dry chemical, alcohol foam, or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

National Fire Protective Association (Estimated): Health - 3, Flammability - 2, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Water can be used to create a non-flammable mixture. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep

container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist. Storage: Keep in a flammables area away from all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from acids. Protect from moisture direct sunlight.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles and face shield for eye and face protection. Use appropriate protective gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits: None established

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Not available

Molecular Formula: C₈H₁₄O₃

Molecular Weight: 158.19

Auto-ignition Temperature: Not available

Flash Point: 68° C (154° F)

Flammable Limits: Lower Limit – 1.09 % vol, Upper Limit – 7.7 % vol

pH: Not available

Boiling Point: 182° C (360° F)

Freezing/Melting Point: -56° C (-69° F)

Decomposition Temperature: Not available.

Specific Gravity: 0.954 g/cm³

Vapor Density (Air=1): 5.46

Vapor Pressure: 0.75 mm Hg @ 20° C.

Viscosity: Not available.

Solubility: Not available.

10. STABILITY AND REACTIVITY

Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibility With Various Substances: Strong oxidizing agents, strong bases.

Hazardous Decomposition Products: Carbon oxides.

Hazardous Polymerization: Not available.

11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Inhalation: May be harmful if inhaled. Can be extremely destructive to mucous membranes.

Ingestion: Toxic if swallowed.

Skin: Toxic if absorbed through the skin. Causes skin burns.

Eyes: Causes serious eye damage.

Symptoms: Cough, shortness of breath, headache, nausea.

Animal Toxicity:

Oral, rabbit: LC50 = 1600 mg/kg;

Skin, rabbit: LD50 = 475 mg/kg;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: Investigated as a mutagen.

Neurotoxicity: No information available.

12. ECOLOGICAL INFORMATION

Environmental Toxicity: No data available.

13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

US DOT

Proper Shipping Name: Corrosive, liquids, toxic, n.o.s. (Isobutyric Anhydride)

Hazard Class: 8 (6.1)

UN Number: UN2922

Packing Group: III

IMDG

Proper Shipping Name: Corrosive, liquids, toxic, n.o.s. (Isobutyric Anhydride)

Hazard Class: 8 (6.1)

UN Number: UN2922

Packing Group: III

IATA

Proper Shipping Name: Corrosive, liquids, toxic, n.o.s. (Isobutyric Anhydride)

Hazard Class: 8 (6.1)

UN Number: UN2922

Packing Group: III

15. REGULATORY INFORMATION

US Federal Regulations:

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 75-04-7 – acute, fire

Section 313: Ethylamine (CAS# 75-04-7) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

CAS# 75-04-7 is on the following state right-to-know lists: New Jersey, Pennsylvania, and Massachusetts

California Prop 65: This product contains no chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION

Originally Prepared: 2/18/2015

Last Revised: 12/1/2015 – Updated information for eye and face protection in Section 8

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