

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Eastman(TM) Isobutyric Anhydride, Kosher

Product No.: EAN 907224. P1970107

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

Identified uses: Chemical Intermediate

Uses advised against: None known.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnsds@eastman.com

Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard Classification:

Physical Hazards

Flammable liquids Category 4

Health Hazards

Acute toxicity (Dermal) Category 3

Acute toxicity (Inhalation - vapor) Category 3

Skin Corrosion/Irritation Category 1B

Serious Eye Damage/Eye Irritation Category 1

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:



Signal Words: DANGER!

Hazard Statement(s): H227: Combustible liquid.
H311: Toxic in contact with skin.
H331: Toxic if inhaled.
H314: Causes severe skin burns and eye damage.

Precautionary Statement:

Prevention: P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P264: Wash hands thoroughly after handling.
P271: Use only outdoors or in a well-ventilated area.

Response: P370 + 378: In case of fire: Use water spray, carbon dioxide, dry chemical or foam for extinction.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P363: Wash contaminated clothing before reuse.
P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER/doctor.
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage: P403+P235: Store in a well-ventilated place. Keep cool.
P233: Keep container tightly closed.
P405: Store locked up.

Disposal: P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC): None known.

SECTION 3: Composition/information on ingredients

Substances / Mixtures

General information:

Chemical name	Concentration	Additional identification	Notes
isobutyric anhydride	100%	CAS-No.: 97-72-3	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

SECTION 4: First aid measures

Description of first aid measures

Inhalation:	Move to fresh air. Treat symptomatically. Get medical attention immediately.
Eye contact:	Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately. In case of irritation from airborne exposure, move to fresh air. Get medical attention if symptoms persist.
Skin contact:	Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes.
Ingestion:	Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: May irritate and cause redness and pain.

Indication of any immediate medical attention and special treatment needed

Hazards:	None known.
Treatment:	Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards: Combustible liquid and vapor. USE WATER WITH CAUTION.

Extinguishing media

Suitable extinguishing media: Carbon Dioxide. Dry chemical. Foam. Dry earth. Dry sand.

Unsuitable extinguishing media: Water.

Special hazards arising from the substance or mixture: Material reacts with water. Contact with moisture or water may generate sufficient heat to ignite nearby combustible materials.

Advice for firefighters

Special fire fighting procedures: Fight fire from a protected location. Use water spray to keep fire-exposed containers cool. Do not allow water to get into container because of reaction.

Special protective equipment for fire-fighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Wear appropriate personal protective equipment.
Environmental Precautions:	Avoid release to the environment.
Methods and material for containment and cleaning up:	DO NOT USE WATER. Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Cover with sand or earth. Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling:	Do not breathe mist or vapor. Do not get in eyes, on skin, on clothing. Do not taste or swallow. Use only with adequate ventilation. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities:	Keep container tightly closed and in a well-ventilated place. Keep away from moisture. Contents may develop pressure if exposed to water.
Specific end use(s):	Chemical Intermediate

SECTION 8: Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

Exposure controls

Appropriate engineering controls:	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
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Individual protection measures, such as personal protective equipment

General information:	Eye bath. Washing facilities. Safety shower.
Eye/face protection:	Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin protection**Hand Protection:**

Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Other:

No data available.

Respiratory Protection:

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures:

Observe good industrial hygiene practices.

Environmental Controls:

No data available.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Physical state:	liquid
Form:	liquid
Color:	Colorless
Odor:	Pungent, Acrid
Odor Threshold:	No data available.
pH:	No data available.
Freezing Point:	-53 °C
Boiling Point:	182 °C
Flash Point:	66 °C (Setaflash Closed Cup)
Evaporation Rate:	Not determined.
Flammability (solid, gas):	not applicable
Flammability Limit - Upper (%)-:	No data available.
Flammability Limit - Lower (%)-:	No data available.
Vapor pressure:	0.7 hPa (20 °C)
Vapor density (air=1):	5.5
Specific Gravity:	0.95 (23 °C)
Solubility(ies)	
Solubility in Water:	decomposes
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Autoignition Temperature:	No data available.
Decomposition Temperature:	(DTA) No exotherm to 450°C
Dynamic viscosity:	No data available.
Kinematic viscosity:	Not determined.

Explosive properties: No data available.

Oxidizing properties: No data available.

Other information

Minimum ignition temperature: 329 °C (ASTM E659)

SECTION 10: Stability and reactivity

Reactivity: Reacts with water.

Chemical Stability: Stable

Possibility of Hazardous Reactions: None known.

Conditions to Avoid: Heat, sparks, flames.

Incompatible Materials: Strong oxidizing agents. Water.

Hazardous Decomposition Products: Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information

Information on likely routes of exposure

Inhalation: Toxic if inhaled.

Ingestion: May cause burns of the gastrointestinal tract if swallowed.

Skin contact: Causes skin burns. Toxic in contact with skin.

Eye contact: Causes serious eye damage.

Information on toxicological effects

Oral

Product: Oral LD-50: (Rat): 2,230 mg/kg

Dermal

Product: Dermal LD-50: (Rabbit): 474 mg/kg

Inhalation

Product: LC50 (Rat, 7 h): 4.21 mg/l

Repeated dose toxicity

Product: No data available.

Skin Corrosion/Irritation

Product: (Rabbit, 24 h): Severe

Serious Eye Damage/Eye Irritation

Product: (Rabbit, 24 h): Severe

Respiratory or Skin Sensitization

Product: No data available.

Carcinogenicity

Product: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Toxicity to reproduction

Product: No data available.

Developmental toxicity

Product: No data available.

Germ Cell Mutagenicity**In vitro**

Product: No data available.

In vivo

Product: No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Aspiration Hazard

Product: No data available.

Other effects:

No data available.

SECTION 12: Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish**

Product: LC-50 (golden orfe, 96 h): 146.6 mg/l

Aquatic Invertebrates

Product: EC-50 (Water Flea, 48 h): 51.25 mg/l

Chronic hazards to the aquatic environment:**Fish**

Product: No data available.

Aquatic Invertebrates**Product:** No data available.**Toxicity to Aquatic Plants****Product:** No data available.**Persistence and Degradability****Biodegradation****Product:** No data available.**BOD/COD Ratio****Product:** No data available.**Bioaccumulative Potential****Bioconcentration Factor (BCF)****Product:** No data available.**Partition Coefficient n-octanol / water (log Kow)****Product:** No data available.**Mobility in Soil:** No data available.**Other Adverse Effects:** No data available.**SECTION 13: Disposal considerations****Waste treatment methods****General information:** No data available.**Disposal methods:** Dispose of waste and residues in accordance with local authority requirements. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.**SECTION 14: Transport information**

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Possible Shipping Description(s):

UN 2922 Corrosive liquids, toxic, n.o.s. (isobutyric anhydride) 8 (6.1) II

ADR/RID

Possible Shipping Description(s):

UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (isobutyric anhydride)
8 (6.1) II

IMDG - International Maritime Dangerous Goods Code

Possible Shipping Description(s):

UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (isobutyric anhydride) 8 (6.1) II

IATA

Possible Shipping Description(s):

UN 2922 Corrosive liquid, toxic, n.o.s. (isobutyric anhydride) 8 (6.1) II

SECTION 15: Regulatory information

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

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: B/3, E, D/1/B

SARA 311-312 Hazard Classification(s):

immediate (acute) health hazard

fire hazard

reactive hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List

NONE

OSHA: hazardous

TSCA (US Toxic Substances Control Act): The intentional components of this product are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL or otherwise complies with CEPA new substance notification requirements.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): The intentional components of this product are listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.

Philippines Inventory (PICCS) : The intentional components of this product are listed on the Philippine Inventory or otherwise comply with PICCS.

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 3, Flammability - 2, Chemical Reactivity - 1

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information: Not relevant.

Key literature references and sources for data: No data available.

Training information: No data available.

Issue Date: 07/01/2015

SDS No.:

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.