

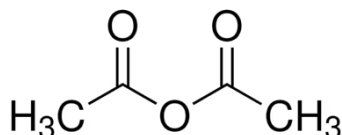


SAFETY DATA SHEET

Creation Date 23/09/2023

1. Identification

Product Name	Acetic Anhydride
CAS No.	108-24-7
Type of Product	Liquid
Formula	C ₄ H ₆ O ₃
Synonyms	Acetyl oxide, Acetic acid anhydride, Acetic oxide, Ethanoic anhydride
Recommended Use	Laboratory chemicals
Uses advised against	Food, drug, Pesticide, Aspirins product use.
Chemical Structure	



Details of the supplier of the safety data sheet

Company

Zeliant Industries

Plot no. 2900/25-27

Nr. Atul Ltd.,GIDC, Ankleshwar

Tel: 9427878467

Emergency Telephone Number

+91 98240 47144

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2. Hazard(s) identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 3
Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 2
Skin Corrosion/Irritation	Category 1
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Signal Word

Danger

Hazard Statements

Flammable liquid and vapor
Harmful if swallowed Fatal if inhaled
Causes severe skin burns and eye damage



Precautionary Statements Prevention

Wash face, hands and any exposed skin thoroughly after handling Do not eat, drink or smoke when using this product
Do not breathe dust/fume/gas/mist/vapors/spray Use only outdoors or in a well-ventilated area Wear respiratory protection
Wear protective gloves/protective clothing/eye protection/face protection Keep away from heat/sparks/open flames/hot surfaces. - No smoking Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment Use only non-sparking tools
Take precautionary measures against static discharge Keep cool

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Immediately call a POISON CENTER or doctor/physician

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

Eyes

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

Ingestion

Rinse mouth

Do NOT induce vomiting



ZELIANT INDUSTRIES

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store in a well-ventilated place. Keep container tightly closed. Store locked up

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Lachrymator (substance which increases the flow of tears) Reacts with water and forms acetic acid

Corrosive to the respiratory tract

3. Composition/Information on Ingredients

Component	CAS No	Weight %
Acetic anhydride	108-24-7	>99

4. First-aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
	Immediate medical attention is required.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
Inhalation	Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required. Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
Ingestion	Do NOT induce vomiting. Call a physician or poison control center immediately.
Most important symptoms and effects	Causes burns by all exposure routes. Difficulty in breathing. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea, and vomiting.
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam. Water mist may be used to cool closed containers.
Unsuitable Extinguishing Media	DO NOT USE WATER
Flash Point	49 °C / 120.2 °F
Method -	CC (closed cup)



ZELIANT INDUSTRIES

Autoignition Temperature	316 °C / 600.8 °F
Explosion Limits	
Upper	10.3 vol %
Lower	2.9 vol %

Specific Hazards Arising from the Chemical

Flammable. Corrosive material. Water reactive. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health
3

Flammability
2

Instability
1

Physical hazards
W

6. Accidental release measures

Personal Precautions	Use personal protective equipment as required. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes, and inhalation of vapors.
Environmental Precautions	Should not be released into the environment. See Section 12 for additional Ecological Information.
Methods for Containment and Clean Up	Remove all sources of ignition. Do not expose spill to water. Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling	Use only under a chemical fume hood. Wear personal protective equipment/face protection. Keep away from open flames, hot surfaces, and sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not breathe mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not ingest. If swallowed then seek immediate medical assistance. Do not allow contact with water.
Storage.	Keep containers tightly closed in a dry, cool, and well-ventilated place. Keep away from heat, sparks, and flame. Keep away from water or moist air. Flammables area. Incompatible Materials. Strong acids. Water. Strong reducing agents. Alcohols. Bases. Oxidizing agent.



8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
Acetic anhydride	TWA: 1 ppm STEL: 3 ppm	(Vacated) Ceiling: 5 ppm (Vacated) Ceiling: 20 mg/m ³ TWA: 5 ppm TWA: 20 mg/m ³	IDLH: 200 ppm Ceiling: 5 ppm Ceiling: 20 mg/m ³	TWA: 1 ppm STEL: 3 ppm

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting equipment.

Personal Protective Equipment

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Colorless
Odor	pungent
Odor Threshold	0.12 – 0.36 ppm
pH	not available
Melting Point/Range	-73.1 °C / -99.6 °F
Boiling Point/Range	140 °C / 284 °F @ 760 mmHg
Flash Point	49 °C / 120.2 °F
Method -	CC (closed cup)
Evaporation Rate	0.46
Flammability (solid, gas)	Flammable Liquid
Flammability or explosive limits	
Upper	10.3 vol %
Lower	2.9 vol %
Vapor Pressure	5 mbar @ 20 °C
Vapor Density	3.5
Specific Gravity	1.087
Solubility	No information available
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	316 °C / 600.8 °F
Decomposition Temperature	No information available
Viscosity	0.91 mPa.s at 20 °C
Molecular Formula	C ₄ H ₆ O ₃
Molecular Weight	102.09



10. Stability and reactivity

Reactive Hazard	Yes
Stability	Moisture sensitive.
Conditions to Avoid	Incompatible products. Keep away from open flames, hot surfaces, and sources of ignition. Exposure to moist air or water.
Incompatible Materials	Strong acids, Water, Strong reducing agents, Alcohols, Bases, Oxidizing agent
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂)
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic anhydride	LD50 = 630 mg/kg (Rat) Equiv. OECD 410	LD50 = 4000 mg/kg (Rabbit)	LC100: 1.67 mg/L/6h (Rat) Equiv. OECD 412 LC50: 400 ppm/6h (Rat)

Toxicologically Synergistic Products No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation	Causes burns by all exposure routes
Sensitization	No information available
Carcinogenicity	No information available
Mutagenic Effects	Not mutagenic in AMES Test
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	No information available.
STOT - single exposure	None known
STOT - repeated exposure	None known
Aspiration hazard	No information available
Symptoms / effects, both acute and delayed	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation: Symptoms of overexposure may be headache, dizziness, tiredness, nausea, and vomiting
Endocrine Disruptor Information	No information available
Other Adverse Effects	The toxicological properties have not been fully investigated.



12. Ecological information

Ecotoxicity

Reacts with water so no ecotoxicity data for the substance is available. Do not empty into drains. Large amounts will affect pH and harm aquatic organisms.

Persistence and Degradability Bioaccumulation/ Accumulation

Persistence is unlikely based on information available.
Bio concentration factor – 3.16
Log Pow – 0.58

Mobility

Component	log Pow
Acetic anhydride	-0.27

13. Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No	UN1715
Proper Shipping Name	ACETIC ANHYDRIDE
Hazard Class	8
Subsidiary Hazard Class	3
Packing Group	II

TDG

UN-No	UN1715
Proper Shipping Name	ACETIC ANHYDRIDE
Hazard Class	8
Subsidiary Hazard Class	3
Packing Group	II

IATA

UN-No	UN1715
Proper Shipping Name	ACETIC ANHYDRIDE
Hazard Class	8
Subsidiary Hazard Class	3
Packing Group	II

IMDG/IMO

UN-No	UN1715
Proper Shipping Name	ACETIC ANHYDRIDE
Hazard Class	8
Subsidiary Hazard Class	3
Packing Group	II



15. Regulatory information

United States of America Inventory

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	TSCA - EPA RegulatoryFlags
Acetic anhydride	108-24-7	X	ACTIVE	-

Legend:

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

TSCA 12(b) - Notices of Export Not applicable

International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea(KECL).

Component	CAS No	DSL	NDSL	EINECS	PICCS	ENCS	ISHL	AICS	IECSC	KECL
Acetic anhydride	108-24-7	X	-	203-564-8	X	X	X	X	X	KE-00017

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

U.S. Federal Regulations

SARA 313

Not applicable

SARA 311/312 Hazard Categories

See section 2 for more information

CWA (Clean Water Act)

Component	CWA - Hazardous Substances	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants
Acetic anhydride	X	5000 lb	-	-

Clean Air Act

Not applicable

OSHA - Occupational Safety and Health Administration

Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Component	Hazardous Substances RQs	CERCLA EHS RQs
Acetic anhydride	5000 lb	-

California Proposition 65 This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Acetic anhydride	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): Y

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.



Other International Regulations

Mexico - Grade

No information available

Authorization/Restrictions according to EU REACH

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Acetic anhydride	-	Use restricted. See item 75. (see link for restriction details)	-

<https://echa.europa.eu/substances-restricted-under-reach>

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

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential	Restriction of Hazardous Substances (RoHS)
Acetic anhydride	108-24-7	Listed	Not applicable	Not applicable	Not applicable

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Acetic anhydride	108-24-7	Not applicable	Not applicable	Not applicable	Not applicable

16. Other information

Creation Date

23-09-2023

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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