

MATERIAL SAFETY DATA SHEET

Acetone

This MSDS is valid for all grades that start with catalog number 329

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: Dimethyl ketone; 2-Propanone; Methyl ketone;
Other means of identification: CAS No. 67-64-1
EINECS No. 200-662-2

Recommended use of the chemical and restrictions on use:

General purpose organic solvent

Supplier Details:

Pharmco Products, Inc.
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213

Pharmco Products, Inc.
1101 Isaac Shelby Drive, Shelbyville,
KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

Emergency Overview:

This material is HAZARDOUS by OSHA Hazard Communication definition. Flammable Liquid. Material can burn with little or no visible flame. May be irritating to the eyes, skin, and respiratory system. May cause central nervous system depression.

OSHA Hazards:

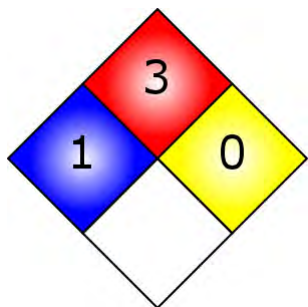
Flammable liquid, Target Organ Effect, Irritant

Target Organs:

Kidney, Liver

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NFPA



GHS label elements, including precautionary statements



Signal Word:

DANGER!

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary statement(s)

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P210	Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P243	Take precautionary measures against static discharge.

GHS Classification(s)

Eye irritation (Category 2)
Flammable Liquids (Category 2)
Specific target organ toxicity - single exposure (Category 3)

Other hazards which do not result in classification:

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Potential Health Effects:

Organ	Description
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation. Vapors may cause drowsiness and dizziness.
Skin	Harmful if absorbed through skin. Causes skin irritation.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity: Acetone
Common name / Synonym: Dimethyl ketone; 2-Propanone; Methyl ketone;
CAS number: 67-64-1
EINECS number: 200-662-2
ICSC number: 0087
RTECS #: AL3150000
UN #: 1090
EC #: 606-001-00-8

% Weight	Material	CAS
100	Acetone	67-64-1

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

Inhalation

Remove person to fresh air. Seek medical attention. Give oxygen or artificial respiration as needed.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

Note to Physician

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Necrosis is primary concern after prolonged inhalation of product. Monitor pH balance. If product was ingested, activated charcoal and/or sodium sulfate will reduce absorption.

5. FIRE FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media:

SMALL FIRE: Use dry chemicals, CO₂, water spray or alcohol-resistant foam. LARGE FIRE: Use water spray, water fog or alcohol-resistant foam. Cool all affected containers with flooding quantities of water.

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Unusual Fire and Explosion Hazards:

- May produce a floating fire hazard.
- Static ignition hazard can result from handling and use.
- Vapors may travel to source of ignition and flash back.
- Vapors may settle in low or confined spaces.

Flammable Properties

Classification

OSHA/NFPA Class IB Flammable Liquid.

Flash point

-20°C (-4°F) Closed Cup

Autoignition temperature

465°C (869°F)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Highly flammable liquid. Eliminate all sources of ignition. All equipment used when handling this product must be grounded. A vapor suppressing foam may be used to reduce vapors. Do not touch or walk through spilled material. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth,

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vermiculite) and place in container for disposal according to local / national regulations. Use clean non-sparking tools to collect absorbed material.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Open and handle container with care. Metal containers involved in the transfer of this material should be grounded and bonded.

Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a cool, dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Consult local fire codes for additional storage information.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component	Source	Type	Value	Note
Acetone	US (ACGIH)	STEL	750 ppm	
Acetone	US (ACGIH)	TWA	500 ppm	

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as personal protective equipment:

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

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Skin and body protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Liquid. Colorless liquid / invisible vapor.
Odor	Sweet. Alcohol-like
Odor threshold	No Data Available.
pH	No Data Available.
Freezing point	-94 °C (-137 °F)
Initial boiling point and boiling range	56 °C (133 °F)
Flash point	-20 °C (-4 °F) Closed Cup
Evaporation rate	Specific data not available - expected to be rapid.
Flammability (solid, gas)	Flammable
Upper / Lower flammability or explosive limits	12.8 %(V) / 2.5%(V)
Vapor pressure	245.3 hPa (184.0 mmHg) at 20.0 °C (68.0 °F)
Vapor Density	specific data not available
Relative Density	0.791 g/cm ³ at 25 °C (77 °F)
Solubility(ies)	completely soluble
Partition coefficient n-octanol/water(ies)	No Data Available.
Auto-ignition temperature	465 °C (869 °F)
Decomposition temperature	Not pertinent
Formula (ACETONE)	C ₃ H ₆ O
Molecular Weight (ACETONE)	58.08 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapors may form explosive mixture with air.
Conditions to avoid (e.g., static discharge, shock or vibration)	Heat, flames, and sparks. Extreme temperatures and direct sunlight.
Incompatible materials	Alkali metals, Ammonia, Oxidizing agents, Peroxides, Strong Inorganic Acids
Hazardous decomposition products	Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products.

11. TOXICOLOGICAL INFORMATION

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Product Summary:

No data available to show respiratory or skin sensitisation, germ cell mutagenicity, teratogenicity, reproductive toxicity, specific target organ toxicity for repeated exposure or aspiration hazard.

Acute Toxicity:

LC50 (Inhalation)	Rat	50,100 mg/m3	8 hours
LD50 (Oral)	Rat	5,800 mg/kg	
LD50 (Skin)	Guinea Pig	7,426 mg/kg	

Irritation:

Eyes

Causes eye irritation.

Skin

Slightly irritating to the skin. Repeated contact with neat product may dry the skin causing cracking and/or fissuring.

Specific target organ toxicity - single exposure (Globally Harmonized System)

May cause drowsiness or dizziness.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Other Hazards

Organ	Description
Eyes	Irritating to the eyes.
Ingestion	Can be harmful if ingested.
Inhalation	Can be harmful if inhaled. Irritating to the respiratory tract. Vapors may cause drowsiness and dizziness.
Skin	Harmful if absorbed through skin. Irritating to skin.

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12. ECOLOGICAL INFORMATION

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Ecotoxicity (aquatic and terrestrial, where available):

Acute Fish Toxicity (ACETONE)

LC50 / 96 hours Rainbow Trout 5,540 mg/L

Persistence and degradability:

No data available

Bioaccumulative potential:

No data available

Other adverse effects:

No data available

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number	1090
UN proper shipping name	Acetone
Transport hazard class(es)	3
Packing group (if applicable)	II

Reportable Quantity

5,000 lbs.

IMDG

UN-Number: 1090 Class: 3 Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: ACETONE

Marine pollutant: No

IATA

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UN-Number: 1090 Class: 3 Packing Group: II
Proper shipping name: Acetone

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards

Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard
Chronic Health Hazard
Fire Hazard

CERCLA

Acetone CAS-No. 67-64-1, RQ: 5,000 lbs

Massachusetts Right To Know Components

Acetone CAS-No. 67-64-1 Revision Date 2007-03-01

Pennsylvania Right To Know Components

Acetone CAS-No. 67-64-1 Revision Date 2007-03-01

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New Jersey Right To Know Components

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California Prop 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

**16. OTHER INFORMATION:
INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS**

Disclaimer

PHARMCO-AAPER believes that the information on this MSDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, PHARMCO-AAPER does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable. Information is correct to the best of our knowledge at the date of the MSDS publication.