



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: ACETONE

Manufacturer Information:

Sunoco, Inc. (R&M)
1735 Market Street LL

Philadelphia, Pennsylvania, 19103-7583

Product Use:

Chemical intermediate

Emergency Phone Numbers:

Chemtrec (800) 424-9300
Sunoco Inc. (800) 964-8861

Information:

Product Safety Information (610) 859-1120

2. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No. | Amount (Vol%) |
|-----------|---------|---------------|
| ACETONE | 67-64-1 | 100 |

EXPOSURE GUIDELINES (SEE SECTION 15 FOR ADDITIONAL EXPOSURE LIMITS)

| | CAS No. | Governing Body | Exposure Limits |
|-----------------------|---------|----------------|-----------------|
| Limit for the product | 67-64-1 | ACGIH | STEL 750 ppm |
| Limit for the product | 67-64-1 | ACGIH | TWA 500 ppm |
| Limit for the product | 67-64-1 | OSHA | TWA 1000 ppm |

3. HAZARDS IDENTIFICATION

• **EMERGENCY OVERVIEW**

Danger! Extremely flammable liquid and vapor. Vapors may cause flash fire or explosion. Harmful if inhaled. High vapor concentrations may cause drowsiness. Causes skin and eye irritation. Harmful if swallowed. May cause target organ or system damage to the following: eye, skin, respiratory system, central nervous system,

Hazards Ratings:

Key: 0 = least, 1 = slight, 2 = moderate, 3 = high, 4 = extreme

| | Health | Fire | Reactivity | PPI |
|------|--------|------|------------|-----|
| NFPA | 1 | 3 | 0 | |
| HMIS | 1 | 3 | 0 | X |

- **POTENTIAL HEALTH EFFECTS**

- **PRE-EXISTING MEDICAL CONDITIONS**

The following diseases or disorders may be aggravated by exposure to this product: skin, eye, lung (asthma-like conditions),

- **INHALATION**

High concentrations may lead to central nervous system effects (drowsiness, dizziness, nausea, headaches, paralysis and loss of consciousness and even death). High vapor concentrations are irritating to the eyes, nose, throat, and lungs.

| | | |
|----------------------------|------------|-------|
| LC50 (mg/l): | no data | |
| LC50 (mg/m ³): | rat; 8 hrs | 50000 |
| LC50 (ppm): | no data | |

- **SKIN**

Moderately irritating to the skin. Prolonged or repeated contact can result in defatting and drying of the skin which may result in skin irritation and dermatitis (rash).

| | | |
|--------------------|---------|------------|
| Draize Skin Score: | no data | Out of 8.0 |
| LD50 (mg/kg): | rabbit | 20000 |

- **EYES**

Contact with the eye may cause moderate to severe irritation.

- **INGESTION**

Product may be harmful or fatal if swallowed. Pulmonary aspiration hazard. After ingestion, may enter lungs and produce damage. May produce central nervous system effects, which may include dizziness, loss of balance and coordination, unconsciousness, coma and even death.

| | | |
|--------------|-----|-----|
| LD50 (g/kg): | rat | 5.8 |
|--------------|-----|-----|

4. FIRST AID MEASURES

- **INHALATION**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen and continue to monitor. Get immediate medical attention.

- **SKIN**

Immediately flush skin with plenty of water. Remove clothing. Get medical attention immediately. Wash clothing separately before reuse.

- **EYES**

Flush eye with water for 15 minutes. Get medical attention.

- **INGESTION**

If swallowed, do NOT induce vomiting. Give victim a glass of water or milk. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Get medical attention immediately. See Section 15 for additional first aid information.

5. FIRE FIGHTING MEASURES

- **EXTINGUISHING MEDIA**

Water spray; Alcohol resistant foam; Dry chemical; Carbon dioxide;

- **FIRE FIGHTING INSTRUCTIONS**

Use water spray. Use water spray to cool fire exposed tanks and containers. Acetone/water solutions that contain more than 2.5% acetone have flash points. When the acetone concentration is greater than 8% (by weight) in a closed container, it would be within the flammable range and cause fire or explosion if a source of ignition were introduced.

FLAMMABLE PROPERTIES

| | Typical | Minimum | Maximum | Text Result | Units | Method |
|--------------------------|---------|---------|---------|-------------|-------|--------|
| Flash Point | 1.4 | | | | F | N/A |
| Autoignition Temperature | 869 | | | | F | N/A |
| Lower Explosion Limit | 2.5 | | | | % | N/A |
| Upper Explosion Limit | 12.8 | | | | % | N/A |

6. ACCIDENTAL RELEASE MEASURES

Prevent ignition, stop leak and ventilate the area. Contain spilled liquid with sand or earth. DO NOT use combustible materials such as sawdust. Use appropriate personal protective equipment as stated in Section 8 of this MSDS. Advise the Environmental Protection Agency (EPA) and appropriate state agencies, if required. US regulations require reporting spills of this material that could reach any surface waters. The toll free number for the US Coast Guard National Response Center is (800) 424-8802. After removal, flush contaminated area thoroughly with water.

7. HANDLING AND STORAGE

HANDLING

Use only in a well-ventilated area. Ground and bond containers when transferring material. Avoid breathing (dust, vapor, mist, gas). Avoid contact with this material. Wash thoroughly after handling. Do not use air pressure to unload containers.

STORAGE

Keep away from heat, sparks, and flame. Store in a cool dry place. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Consult With a Health and Safety Professional for Specific Selections

ENGINEERING CONTROLS

Use with adequate ventilation. Ventilation is normally required when handling or using this product to keep exposure to airborne contaminants below the exposure limit. Use explosion-proof ventilation equipment.

PERSONAL PROTECTION

EYE PROTECTION

Splash proof chemical goggles or full face shield recommended to protect against splash of product.

GLOVES or HAND PROTECTION

The glove(s) listed below may provide protection against permeation. Gloves of other chemically resistant materials may not provide adequate protection. Protective gloves are recommended to protect against contact with product. Neoprene; Natural rubber;

RESPIRATORY PROTECTION

Concentration in air determines the level of respiratory protection needed. Use only NIOSH certified respiratory equipment. Half-mask air purifying respirator with organic vapor cartridges is acceptable for exposures to ten (10) times the exposure limit. Full-face air purifying respirator with organic vapor cartridges is acceptable for exposures to fifty (50) times the exposure limit. Exposure should not exceed the cartridge limit of 1000 ppm. Protection by air purifying respirators is limited. Use a positive pressure-demand full-face supplied air respirator or SCBA for exposures greater than fifty (50) times the exposure limit. If exposure is above the IDLH (Immediately Dangerous to Life and Health) or there is the possibility of an uncontrolled release, or exposure levels are unknown, then use a positive pressure-demand full-face supplied air respirator with escape bottle or SCBA. Wear a NIOSH-approved (or equivalent) full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

OTHER

The following materials are acceptable for use as protective clothing: Neoprene; Natural rubber; Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Remove contaminated clothing and wash before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

| Physical Property | Typical | Units | Text Result | Reference |
|---------------------------|---------|--------|---------------|-----------|
| Appearance | | N/A | Colorless liq | |
| Boiling Point | 133 | F | | |
| Bulk Density | | lb/gal | No data | |
| Melting Point | -137.2 | F | | |
| Molecular Weight | 58.08 | g/mole | | |
| Octanol/Water Coefficient | | N/A | No data | |
| pH | 7 | N/A | | |
| Specific Gravity | 0.79 | N/A | | |
| Solubility In Water | | wt % | Complete | |
| Odor | | N/A | Sweet pungent | |
| Odor Threshold | 62 | ppm | | |
| Vapor Pressure | 181 | mmHg | @ 20 C | |
| Viscosity (F) | | SUS | No data | |
| Viscosity (C) | | CsT | No data | |
| % Volatile | 100 | wt % | | |

10. STABILITY AND REACTIVITY

- **STABILITY**
Stable
- **CONDITIONS TO AVOID**
Avoid heat, sparks and open flame.
- **INCOMPATIBILITY**
Acetone may form explosive mixtures with chromic anhydride, chromyl alcohol, hexachloromelamine, hydrogen peroxide, permonosulfuric acid, potassium tertbutoxide, and thioglycol. Strong oxidizers
- **HAZARDOUS DECOMPOSITION PRODUCTS**
Combustion may produce carbon monoxide, carbon dioxide and other asphyxiants.
- **HAZARDOUS POLYMERIZATION**
Will not polymerize.

11. ECOLOGICAL INFORMATION

This product is not expected to persist in the environment.

12. DISPOSAL CONSIDERATIONS

Follow federal, state and local regulations. In Canada, follow federal, provincial and local regulations. This material is a RCRA hazardous waste. Do not flush material to drain or storm sewer. Contract to authorized disposal service.

13. TRANSPORT INFORMATION

| <u>Governing Body</u> | <u>Mode</u> | <u>Proper Shipping Name</u> |
|-----------------------|-------------|-----------------------------|
| DOT | Ground | Acetone |

| <u>Governing Body</u> | <u>Mode</u> | <u>Hazard Class</u> | <u>UN/NA No.</u> | <u>Label</u> |
|-----------------------|-------------|----------------------|------------------|--------------|
| DOT | Ground | 3 (Flammable liquid) | UN1090 | |

14. REGULATORY INFORMATION

| <u>Regulatory List</u> | <u>Component</u> | <u>CAS No.</u> |
|--|------------------|----------------|
| ACGIH - Occupational Exposure Limits - Carcinogens | ACETONE | 67-64-1 |
| ACGIH - Occupational Exposure Limits - TWAs | ACETONE | 67-64-1 |
| ACGIH - Short Term Exposure Limits | ACETONE | 67-64-1 |
| CAA (Clean Air Act) - HON Rule - SOCM Chemicals | ACETONE | 67-64-1 |
| Canada - WHMIS - Ingredient Disclosure | ACETONE | 67-64-1 |
| CERCLA/SARA - Haz Substances and their RQs | ACETONE | 67-64-1 |
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| Inventory - Australia (AICS) | ACETONE | 67-64-1 |
| Inventory - Canada - Domestic Substances List | ACETONE | 67-64-1 |
| Inventory - China | ACETONE | 67-64-1 |
| Inventory - European EINECS Inventory | ACETONE | 67-64-1 |
| Inventory - Japan - (ENCS) | ACETONE | 67-64-1 |
| Inventory - Korea - Existing and Evaluated | ACETONE | 67-64-1 |
| Inventory - Philippines Inventory (PICCS) | ACETONE | 67-64-1 |
| Inventory - TSCA - Sect. 8(b) Inventory | ACETONE | 67-64-1 |
| Massachusetts - Right To Know List | ACETONE | 67-64-1 |
| New Jersey - Department of Health RTK List | ACETONE | 67-64-1 |
| New Jersey - Special Hazardous Substances | ACETONE | 67-64-1 |
| OSHA - Final PELs - Time Weighted Averages | ACETONE | 67-64-1 |
| Pennsylvania - RTK (Right to Know) List | ACETONE | 67-64-1 |
| TSCA - Sect. 12(b) - Export Notification | ACETONE | 67-64-1 |
| TSCA - Section 4 - Chemical Test Rules | ACETONE | 67-64-1 |

Title III Classifications Sections 311,312:

- Acute: **YES**
- Chronic: **NO**
- Fire: **YES**
- Reactivity: **NO**
- Sudden Release of Pressure: **NO**

15. OTHER INFORMATION

If swallowed, acetone should be removed by emesis and/or gastric lavage. Mechanical assisted ventilation may be necessary. In severe cases, an initial period of hypoglycemia may require correction by intravenous solutions of dextrose. In some cases, an initial period of hyperglycemia has occurred during the recovery phase and has lasted for a few days. Treatment with insulin may be beneficial but should be used cautiously. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition. They may explode and cause injury or death. Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner or properly disposed of. This product is subject to the Chemical Diversion and Trafficking Act of 1988 and subject to specific record keeping requirements. WHMIS Classification: Class B Division 2 - Flammable Liquids;

The first part of the document discusses the importance of maintaining accurate records. It emphasizes that proper record-keeping is essential for ensuring the integrity and reliability of the data. This section also covers the various methods used to collect and analyze the information, highlighting the need for consistency and precision throughout the process.

The second part of the document focuses on the results of the study. It presents a detailed analysis of the data collected, showing the trends and patterns that emerged. The findings are discussed in the context of the research objectives, providing a clear and concise summary of the key results. This section also includes a discussion of the limitations of the study and suggestions for future research.

The final part of the document provides a conclusion and a summary of the main findings. It reiterates the importance of the research and the value of the data collected. The document concludes with a statement of the author's appreciation for the support and assistance provided throughout the project.

The data collected during the study shows a clear trend of increasing values over time. This trend is consistent across all the different categories analyzed, suggesting a common underlying factor. The results also indicate that the rate of increase is relatively stable, which is an important finding for the purposes of the study.

In addition to the main findings, the study also identified several interesting patterns in the data. These patterns include seasonal fluctuations and a correlation between certain variables. These findings provide valuable insights into the underlying processes and can be used to inform future research and decision-making.

The study was conducted using a combination of primary and secondary data sources. The primary data was collected through a series of surveys and interviews, while the secondary data was obtained from existing records and databases. This approach allowed for a comprehensive and multi-faceted analysis of the data.

The results of the study have several implications for practice. They suggest that the factors identified in the study are important and should be taken into account in future planning and decision-making. The findings also provide a basis for further research and exploration in this area.

In conclusion, the study has provided a detailed and thorough analysis of the data collected. The findings are clear and consistent, and provide valuable insights into the underlying processes. The study also identifies several interesting patterns and correlations that warrant further investigation. The results of the study have several implications for practice and can be used to inform future research and decision-making.