

# Material Safety Data Sheet

HAZARD WARNINGS	RISK PHRASES	PROTECTIVE CLOTHING
 	<b>Flammable material; avoid heat and sources of ignition.</b> <b>Harmful compound, minimize exposure.</b> <b>Irritating to skin, eyes, and the respiratory system.</b>	   

## Section I. Chemical Product and Company Identification

Chemical Name	<b>Acetone</b>		
Catalog Number	A0054	Supplier	TGI America 9211 N. Harbortgate St. Portland OR 1-800-423-8616
Synonym	2-Propanone (9 CI)		
Chemical Formula	CH <sub>3</sub> COCH <sub>3</sub>		
CAS Number	67-64-1	In case of Emergency Call	<b>Chemtrec®</b> <b>(800) 424-9300 (U.S.)</b> <b>(703) 527-3887 (International)</b>

## Section II. Composition and Information on Ingredients

Chemical Name	CAS Number	Percent (%)	TLV/PEL	Toxicology Data
Acetone	67-64-1	Min. 99.5 (GC)	TLV-TWA: 500ppm TLV-Ceiling: 750ppm	Rat LC <sub>50</sub> (inhalation) 50100mg/m <sup>3</sup> /8H Rat LD <sub>50</sub> (oral) 5800mg/kg Guinea Pig LD <sub>50</sub> (dermal) >9400µl/kg

## Section III. Hazards Identification

Acute Health Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.
Chronic Health Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY: REPRODUCTIVE EFFECTS:</b> Rat TCLo (inhalation) 30mg/m <sup>3</sup> , female, 1-13 Days of pregnancy. Toxic Effects: Effects on Fertility- Pre-implantation mortality. Effects on Fertility- Post-implantation mortality. Effects on Embryo or Fetus- Fetal death. Rat TDLo (oral) 273gm/kg, male, 13 Weeks prior to mating. Toxic Effects: Paternal Effects- Spermatogenesis. Mammal - Unspecified Species TCLo (inhalation) 31500µg/m <sup>3</sup> /24 Hours, female, 1-13 Days of pregnancy. Toxic Effects: Effects on Fertility- Post-implantation mortality. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.

## Section IV. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin Contact	In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.
Inhalation	If the victim is not breathing, perform mouth-to-mouth resuscitation. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, oxygen can be administered. Seek medical attention if respiration problems do not improve.
Ingestion	INDUCE VOMITING by sticking finger in throat. Lower the head so that the vomit will not reenter the mouth and throat. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive.

<b>Section V. Fire and Explosion Data</b>			
Flammability	Flammable.	Auto-Ignition	465°C (869°F)
Flash Points	-20°C (-4°F).	Flammable Limits	LOWER: 2.6% UPPER: 12.8%
Combustion Products	These products are toxic carbon oxides (CO, CO <sub>2</sub> ).		
Fire Hazards	Not available.		
Explosion Hazards	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.		
Fire Fighting Media and Instructions	Flammable liquid. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Consult with local fire authorities before attempting large scale fire-fighting operations.		

<b>Section VI. Accidental Release Measures</b>	
Spill Cleanup Instructions	Flammable liquid. Harmful material. Irritating material. Keep away from heat. Mechanical exhaust required. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. DO NOT touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Consult federal, state, and/or local authorities for assistance on disposal.

<b>Section VII. Handling and Storage</b>	
Handling and Storage Information	FLAMMABLE. HARMFUL. IRRITANT. Keep away from heat. Mechanical exhaust required. Avoid excessive heat and light. DO NOT ingest. Do not breathe gas/fumes/ vapor/spray. If ingested, seek medical advice immediately and show the container or the label. Treat symptomatically and supportively. Always store away from incompatible compounds such as oxidizing agents.

<b>Section VIII. Exposure Controls/Personal Protection</b>	
Engineering Controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash station and safety shower is proximal to the work-station location.
Personal Protection	Splash goggles. Lab coat. Vapor respirator. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product. Be sure to use a MSHA/NIOSH approved respirator or equivalent. 
Exposure Limits	TLV-TWA: 500ppm TLV-Ceiling: 750ppm

<b>Section IX. Physical and Chemical Properties</b>			
Physical state @ 20°C	Liquid. (Colorless.)	Solubility	Soluble in benzene. Miscible with water, alcohol, dimethylformamide, ether, chloroform, most oils.
Specific Gravity	0.79 (water=1)	Partition Coefficient	K <sub>ow</sub> = -0.24
Molecular Weight	58.08	Vapor Pressure	30.8 kPa (@ 20°C)
Boiling Point	56°C (132.8°F)	Vapor Density	2.0 (Air = 1)
Melting Point	-94.8°C (-138.6°F)	Volatility	Not available.
Refractive Index	1.3588 @ 20°C	Odor	Fruity.
Critical Temperature	Not available.	Taste	Pungent, sweetish.
Viscosity	Dynamic: 0.32 cP @ 20°C		

<b>Section X. Stability and Reactivity Data</b>	
Stability	This material is stable if stored under proper conditions. (See Section VII for instructions)
Conditions of Instability	Avoid excessive heat and light.
Incompatibilities	Reactive with oxidizing agents.

**Section XI. Toxicological Information**

RTECS Number	AL3150000
Routes of Exposure	Eye Contact. Ingestion. Inhalation.
Toxicity Data	Rat LC <sub>50</sub> (inhalation) 50100mg/m <sup>3</sup> /8H Rat LD <sub>50</sub> (oral) 5800mg/kg Guinea Pig LD <sub>50</sub> (dermal) >9400µl/kg
Chronic Toxic Effects	<b>CARCINOGENIC EFFECTS</b> : Not available. <b>MUTAGENIC EFFECTS</b> : Not available. <b>TERATOGENIC EFFECTS</b> : Not available. <b>DEVELOPMENTAL TOXICITY: REPRODUCTIVE EFFECTS:</b> Rat TCl <sub>o</sub> (inhalation) 30mg/m <sup>3</sup> , female, 1-13 Days of pregnancy. Toxic Effects: Effects on Fertility- Pre-implantation mortality. Effects on Fertility- Post-implantation mortality. Effects on Embryo or Fetus- Fetal death. Rat TDLo (oral) 273gm/kg, male, 13 Weeks prior to mating. Toxic Effects: Paternal Effects- Spermatogenesis. Mammal - Unspecified Species TCl <sub>o</sub> (inhalation) 31500µg/m <sup>3</sup> /24 Hours, female, 1-13 Days of pregnancy. Toxic Effects: Effects on Fertility- Post-implantation mortality. Repeated or prolonged exposure to this compound is not known to aggravate existing medical conditions.
Acute Toxic Effects	Harmful if ingested or inhaled. Minimize exposure to this material. Severe overexposure can result in injury or death. Irritating to eyes and skin on contact. Inhalation causes irritation of the lungs and respiratory system. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Follow safe industrial hygiene practices and always wear proper protective equipment when handling this compound.

**Section XII. Ecological Information**

Ecotoxicity	Not available.
Environmental Fate	Acetone's production and use as a solvent for fats, oils, waxes, resins, rubbers, plastics, pharmaceuticals and rubber cements may result in its release to the environment through various waste streams. Its use as an extracting reagent and starting material or intermediate in the manufacture of chemical products will also lead to its release to the environment. Acetone occurs naturally as a metabolic byproduct of plants and animals and is released into the atmosphere by volcanoes and forest fires. Based on an experimental vapor pressure of 231 mm Hg at 25 deg C, acetone is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase acetone is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals with an estimated atmospheric half-life of 71 days. Acetone also undergoes photodecomposition by sunlight with an estimated half-life of about 80 days. Acetone is expected to have very high mobility in soils based upon an estimated Koc value of 1. Volatilization from dry soil surfaces is expected based upon the vapor pressure of this compound. Volatilization from moist soil surfaces is also expected based upon the measured Henry's Law constant of 1.87X10 <sup>-5</sup> atm-cu m/mol. This compound is expected to biodegrade under aerobic and anaerobic conditions. In water, acetone is not expected to adsorb to suspended solids or sediment based upon its estimated Koc value. Volatilization from water surfaces is expected to be an important environmental fate process given its estimated Henry's Law constant. Estimated half-lives for a model river and model lake are 38 and 333 hours, respectively. Experimentally determined volatilization half-lives in a shallow stream were measured in the range of 8-18 hours. Bioconcentration in aquatic organisms is considered low based upon an estimated BCF value of 1. Occupational exposure may be through inhalation and dermal contact with this compound at workplaces where acetone is produced or used. The general population may be exposed to acetone through the use of commercially available products containing this compound such as paints, adhesives, cosmetics, and rubber cements. Exposure will also arise from inhalation of ambient air, ingestion of drinking water, and food that contains acetone. (HSDB)

**Section XIII. Disposal Considerations**

Waste Disposal	Recycle to process, if possible. Consult your local regional authorities. You may be able to dissolve or mix material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.
----------------	---

**Section XIV. Transport Information**

DOT Classification	CLASS 3: Flammable liquid.
PIN Number	UN1090
Proper Shipping Name	Acetone
Packing Group (PG)	II
DOT Pictograms	

**Section XV. Other Regulatory Information and Pictograms**

TSCA Chemical Inventory (EPA)	This compound is <b>ON</b> the EPA Toxic Substances Control Act (TSCA) inventory list. On EPA IRIS Database.
WHMIS Classification (Canada)	CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). On DSL.
EINECS Number (EEC)	200-662-2
EEC Risk Statements	R10- Flammable. R18- In use, may form flammable/explosive vapor-air mixture. R20/21/22- Harmful by inhalation, in contact with skin and if swallowed. R36/37/38- Irritating to eyes, respiratory system and skin.
Japanese Regulatory Data	ENCS No. 2-0542

**Section XVI. Other Information**

**Version 1.0**  
**Validated on 1/16/2004.**  
**Printed 1/10/2005.**

**Notice to Reader**

TCl laboratory chemicals are for research purposes only and are NOT intended for use as drugs, food additives, household, or pesticides. The information herein is believed to be correct, but does not claim to be all inclusive and should be used only as a guide. Neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All chemical reagents must be handled with the recognition that their chemical, physiological, toxicological, and hazardous properties have not been fully investigated or determined. All chemical reagents should be handled only by individuals who are familiar with their potential hazards and who have been fully trained in proper safety, laboratory, and chemical handling procedures. Although certain hazards are described herein, we can not guarantee that these are the only hazards which exist. Our MSDS sheets are based only on data available at the time of shipping and are subject to change without notice as new information is obtained. Avoid long storage periods since the product is subject to degradation with age and may become more dangerous or hazardous. It is the responsibility of the user to request updated MSDS sheets for products that are stored for extended periods. Disposal of unused product must be undertaken by qualified personnel who are knowledgeable in all applicable regulations and follow all pertinent safety precautions including the use of appropriate protective equipment (e.g. protective goggles, protective clothing, breathing equipment, facial mask, fume hood). For proper handling and disposal, always comply with federal, state, and local regulations.

Printed 1/10/2005.