Material Safety Data Sheet
2-Methyl-2-propanethiol, 99%

ACC# 90384

Section 1 - Chemical Product and Company Identification

MSDS Name: 2-Methyl-2-propanethiol, 99%
Catalog Numbers: AC149020025, AC149020500, AC149021000, AC149025000
Synonyms: tert-Butyl mercaptan.
Company Identification:

Acros Organics N.V.
One Reagent Lane
Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01
For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
75-66-1	2-Methyl-2-propanethiol	99	200-890-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: -26 deg C.
Warning! Flammable liquid and vapor. Causes eye irritation. Stench. May cause allergic skin reaction. May cause skin and respiratory tract irritation. May cause lung damage. May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood).
Target Organs: Blood, lungs, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation.
Skin: May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be harmful if absorbed through the skin.
Ingestion: Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Mercaptans may cause nausea and headache. Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse. May cause lung damage.
Inhalation: Vapors may cause dizziness or suffocation. Inhalation of high concentrations may cause pulmonary edema. Exposure to high concentrations of mercaptans can produce unconsciousness with cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), cold extremities and rapid pulse. Mercaptans may cause nausea and headache. Butyl mercaptan has been shown to be a CNS depressant with possible effects including muscular weakness, malaise, headache, nausea, confusion, and possibly coma. High exposures can cause acute lung injury.
Chronic: May cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood), acidosis, and quick, shallow breathing.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Notes to Physician: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. If cyanosis is severe, intravenous injection of Methylene Blue, 1mg/kg of body weight may be of value.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Containers may explode in the heat of a fire. Flammable liquid and vapor. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. May polymerize explosively when involved in a fire.
Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam. For large fires, use water spray, fog, or alcohol-resistant foam. Use water spray to cool fire-exposed containers. Water may be ineffective. Use agent most appropriate to extinguish fire. Do NOT use straight streams of water.
Flash Point: -26 deg C (-14.80 deg F)
Autoignition Temperature: Not available.
Explosion Limits, Lower:N/A

Upper: N/A
NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep away from heat, sparks and flame. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from heat, sparks, and flame. Keep away from sources of ignition. Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
2-Methyl-2-propanethiol	none listed	none listed	none listed

OSHA Vacated PELs: 2-Methyl-2-propanethiol: No OSHA Vacated PELs are listed for this chemical.
Personal Protective Equipment
Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin: Wear appropriate protective gloves to prevent skin exposure.
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless
Odor: skunk-like - stench
pH: Not available.
Vapor Pressure: 305 mmHg @ 37.8
Vapor Density: 3.0
Evaporation Rate: Not available.
Viscosity: 0.638 cPs 20.00
Boiling Point: 62 deg C
Freezing/Melting Point:1 deg C
Decomposition Temperature: Not available.
Solubility: slightly soluble
Specific Gravity/Density:.8000g/cm3
Molecular Formula:C4H10S
Molecular Weight:90.18

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures. Dangerous when heated to decomposition, emits highly toxic fumes of carbon and sulfur oxides.
Conditions to Avoid: Ignition sources, excess heat, strong oxidants.
Incompatibilities with Other Materials: Reducing agents, alkali metals, bases, oxidizing agents, acids.
Hazardous Decomposition Products: Carbon monoxide, oxides of sulfur, carbon dioxide, hydrogen sulfide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 75-66-1: TZ7660000
LD50/LC50:
CAS# 75-66-1:
Draize test, rabbit, eye: 84 mg;
Inhalation, mouse: LC50 = 16500 ppm/4H;
Inhalation, rat: LC50 = 22200 ppm/4H;

Oral, rat: LD50 = 4729 mg/kg;
.

Carcinogenicity:
CAS# 75-66-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: Paralysis and narcosis may be caused by concentrated vapors. Seven workers exposed to 50 to 500 ppm for 1 hour experienced mild to severe effects of drowsiness, dizziness, weakness and CNS depression.
Teratogenicity: No information available.
Reproductive Effects: No information available.
Mutagenicity: No information available.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Rapidly volatilizes into the atmosphere. Resistant to biodegradation and low potential for bioconcentration.
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	BUTYL MERCAPTANS	BUTYL MERCAPTAN
Hazard Class:	3	3
UN Number:	UN2347	UN2347
Packing Group:	II	II
Additional Info:		FLASHPOINT -26 C

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 75-66-1 is listed on the TSCA inventory.
Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.
Section 12b
None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.
SARA Codes
CAS # 75-66-1: immediate, fire.
Section 313 No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.
STATE
CAS# 75-66-1 can be found on the following state right to know lists: Pennsylvania, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives
Hazard Symbols:
XN F
Risk Phrases:
R 11 Highly flammable.
R 36 Irritating to eyes.
R 43 May cause sensitization by skin contact.

Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 36/37 Wear suitable protective clothing and gloves.
S 38 In case of insufficient ventilation, wear suitable respiratory equipment.

WGK (Water Danger/Protection)
CAS# 75-66-1: No information available.
Canada - DSL/NDSL
CAS# 75-66-1 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of B2, D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List

Section 16 - Additional Information

MSDS Creation Date: 5/01/1998
Revision #4 Date: 8/15/2005