Material Safety Data Sheet
Isobutyl isobutyrate, 99% (gc)

ACC# 11950

Section 1 - Chemical Product and Company Identification

MSDS Name: Isobutyl isobutyrate, 99% (gc)
Catalog Numbers: AC412670000, AC412670030, AC412670050, AC412675000
Synonyms: 2-Methylpropyl isobutyrate; 2-Methylpropyl 2-methylpropanoate; Propanoic acid, 2-methyl-, 2-methylpropyl ester
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
97-85-8	Isobutyl isobutyrate	99	202-612-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless clear liquid. Flash Point: 38 deg C.
Warning! Flammable liquid and vapor. Irritant. May cause eye and skin irritation. May cause respiratory tract irritation. May cause central nervous system depression.
Target Organs: Central nervous system.

Potential Health Effects
Eye: May cause eye irritation.
Skin: May cause skin irritation. May be absorbed through the skin.
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Ingestion of large amounts may cause CNS depression.
Inhalation: Aspiration may lead to pulmonary edema. Vapors may cause dizziness or suffocation. Vapor or mist is irritating to the mucous membranes and upper respiratory tract. Inhalation at high concentrations may cause CNS depression and asphixiation. May cause burning sensation in the chest.
Chronic: No information found.

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 immediately. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: 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: Treat symptomatically and supportively.

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. Water runoff can cause environmental damage. Dike and collect water used to fight fire. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Will burn if involved in a fire. Use water spray to keep fire-exposed containers cool. Will react with water to form toxic and corrosive fumes. Flammable liquid and vapor. Containers may explode when heated.
Extinguishing Media: Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.
Flash Point: 38 deg C (100.40 deg F)
Autoignition Temperature: 432 deg C (809.60 deg F)
Explosion Limits, Lower:.96% (vol)
Upper: 7.59% (vol)
NFPA Rating: (estimated) Health: 0; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Cover with sand, dry lime or soda ash and place in a closed container for disposal. Remove all sources of ignition. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. 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. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local explosion-proof ventilation to keep airborne levels to acceptable levels.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Isobutyl isobutyrate	none listed	none listed	none listed

OSHA Vacated PELs: Isobutyl isobutyrate: 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. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Clear liquid
Appearance: clear, colorless
Odor: fruity odor
pH: Not available.
Vapor Pressure: 4.33 mm Hg @ 25 deg C
Vapor Density: 4.97
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 148 deg C
Freezing/Melting Point:-81 deg C
Decomposition Temperature: Not available.
Solubility: Insoluble.
Specific Gravity/Density:.8540g/cm3
Molecular Formula:C8H16O2
Molecular Weight:144.21

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials: Strong oxidizing agents, strong bases.
Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.
Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:
CAS# 97-85-8: NQ5250000
LD50/LC50:
CAS# 97-85-8:
Inhalation, rat: LC50 = 5000 ppm/6H;
Oral, rat: LD50 = 12800 mg/kg;
Skin, rabbit: LD50 = >8600 mg/kg;
.
Skin, rabbit: LD50 >8600
Carcinogenicity:
CAS# 97-85-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: No information found
Neurotoxicity: No information found
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: Biodegradation is expected to be an important degredation process in both soil and water. Expected to leach readily in soil. Koc estimations indicate high soil mobility. Will evaporate from solid surfaces. Volatilization from water may be an important transport process, but may not be rapid. Aquatic bioconcentration and adsorption to sediment are not expected to be important. Substance expected to exist almost entirely in the vapor-phase in the ambient atmosphere. Will degrade in the ambient atmosphere.
Physical: Volatilization half lives from water: model environmental river (1m deep) = 4.8 hrs.; model pond = 3 days. Degradation in ambient atmosphere by reaction with photochemically produced hydroxyl radicals, half-life 3.4 days.
Other: None.

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:	ISOBUTYL ISOBUTYRATE	No information available.
Hazard Class:	3	
UN Number:	UN2528	
Packing Group:	III	

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 97-85-8 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 # 97-85-8: fire, reactive.
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# 97-85-8 can be found on the following state right to know lists: New Jersey.

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:
Not available.
Risk Phrases:

R 10 Flammable.

Safety Phrases:
S 16 Keep away from sources of ignition - No smoking.

WGK (Water Danger/Protection)
CAS# 97-85-8: 1
Canada - DSL/NDSL
CAS# 97-85-8 is listed on Canada's DSL List.
Canada - WHMIS
This product has a WHMIS classification of B2.
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: 7/06/1999
Revision #3 Date: 10/03/2005