Material Safety Data Sheet

4-Methyl-2-Pentanone, 99.5%

ACC# 96258

Section 1 - Chemical Product and Company Identification

MSDS Name: 4-Methyl-2-Pentanone, 99.5%
Catalog Numbers: AC127390000, AC127390010, AC127390025, AC127390200
Synonyms: Hexone, Isopropylacetone, 4-Methyl-2-Oxopentane, MIBK.
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
108-10-1	Methyl isobutyl ketone	>99.5	203-550-1

Hazard Symbols: F
Risk Phrases: 11

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless. Flash Point: 14 deg C. **Warning! Flammable liquid and vapor.** Causes eye and skin irritation. Causes digestive and respiratory tract irritation. May cause liver damage. May cause central nervous system depression. May cause fetal effects.
Target Organs: Central nervous system, liver.

Potential Health Effects

Eye: Vapors may cause eye irritation. May cause painful sensitization to light. Contact produces irritation, tearing, and burning pain.
Skin: Causes skin irritation. Prolonged and/or repeated contact may cause irritation and/or dermatitis.
Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause effects similar to those for inhalation exposure.
Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. Causes respiratory tract irritation. Exposure produces central nervous system depression. May cause liver abnormalities. May cause visual abnormalities.
Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed.
Skin: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
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. 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. Containers may explode in the heat of a fire. 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. Water may be ineffective. For large fires, use water spray, fog or alcohol-resistant foam. Do NOT use straight streams of water. Cool containers with flooding quantities of water until well after fire is out.

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. Wear a self contained breathing apparatus and appropriate Personal protection. (See Exposure Controls, Personal Protection section). Scoop up with a nonsparking tool, then place into a suitable container for disposal. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as saw dust. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with skin and eyes. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Avoid ingestion and inhalation. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.
Storage: Keep away from sources of ignition. 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.
Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Methyl isobutyl ketone	50 ppm TWA; 75 ppm STEL	50 ppm TWA; 205 mg/m3 TWA 500 ppm IDLH	100 ppm TWA; 410 mg/m3 TWA

OSHA Vacated PELs: Methyl isobutyl ketone: 50 ppm TWA; 205 mg/m3 TWA; 75 ppm STEL; 300 mg/m3 STEL
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 minimize contact with skin.
Respirators: Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Appearance: clear, colorless
Odor: Sweet, camphor-like.
pH: Not available.
Vapor Pressure: 15.7 mm Hg @ 20
Vapor Density: 3.5 (air=1)
Evaporation Rate:1.6 (butyl acetate=1)
Viscosity: Not available.
Boiling Point: 117.4 deg C @ 760.00mm Hg
Freezing/Melting Point:-84 deg C
Autoignition Temperature: 460 deg C (860.00 deg F)
Flash Point: 14 deg C (57.20 deg F)
Decomposition Temperature: Not available.
NFPA Rating: (estimated) Health: 2; Flammability: 3; Reactivity: 1
Explosion Limits, Lower:1.40 vol %
Upper: 7.50 vol %
Solubility: 17 g/l (20 c)
Specific Gravity/Density:.8010g/cm3
Molecular Formula:C6H12O
Molecular Weight:100.16

Section 10 - Stability and Reactivity

Chemical Stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials: Oxidizing agents, potassium tert-butoxide, reducing agents, strong bases. Substance may form explosive peroxides with air.
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: May occur.

Section 11 - Toxicological Information

RTECS#:
CAS# 108-10-1: SA9275000
LD50/LC50:
CAS# 108-10-1:
Draize test, rabbit, eye: 40 mg Severe;
Draize test, rabbit, eye: 100 uL/24H Moderate;
Draize test, rabbit, skin: 500 mg/24H Mild;
Inhalation, mouse: LC50 = 23300 mg/m3;
Inhalation, rat: LC50 = 100 gm/m3;
Oral, mouse: LD50 = 1900 mg/kg;
Oral, rat: LD50 = 2080 mg/kg;<BR.

Carcinogenicity:
CAS# 108-10-1: Not listed by ACGIH, IARC, NIOSH, NTP, or OSHA.
Epidemiology: No information available.
Teratogenicity: Embryo or Fetus: Death, inhalation(ihl)-mouse TCLo=3000 ppm/6H; Stunted fetus, ihl-rat TCLo=300ppm/6H. Specific Developmental Abnormalities: Cardiovascular and Central nervous system, ihl-mouse TCLo=3000ppm/6H; Musculoskeletal, ihl-rat TCLo=300ppm/6H.
Reproductive Effects: No information available.
Neurotoxicity: No information available.
Mutagenicity: No information available.
Other Studies: None.

Section 12 - Ecological Information

Ecotoxicity: Fish: Fathead Minnow: LC50 = 505 mg/L; 96 Hr.; Flow through; 25 degrees C, pH 7.5 Goldfish: LC50 = 460 mg/L; 24 Hr.; Unspecified flea Daphnia: EC50 = 4280.0 mg/L; 24 Hr.; Unspecified : EC50 = 400 mg/L; 96 Hr.; Unspecified ria: Phytobacterium phosphoreum: EC50 = 79.6 mg/L; 5 minutes; Microtox test Redwinged blackbird, oral LD50=100mg/kg. Goldfish LC50=460mg/L/24H.
Environmental: In soil, substance will undergo direct photolysis, volatilization, or aerobic biodegradation. Substance is highly mobile and may also leach to groundwater. In water, substance will undergo direct photolysis and volatilization. Bioaccumulation is not highly predicted. In air, substance will react with hydroxyl radicals or undergo direct photolysis.
Physical: None.
Other: Please refer to the Handbook of Envirnmental Fate and Exposure Data for additional information.

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: CAS# 108-10-1: waste number U161; (Ignitable waste).

Section 14 - Transport Information

	US DOT	IATA	RID/ADR	IMO	Canada TDG
Shipping Name:	METHYL ISOBUTYL KETONE				METHYL ISOBUTYL KETONE
Hazard Class:	3				3
UN Number:	UN1245				UN1245
Packing Group:	II				II
Additional Info:					FLASHPOINT 18 C

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 108-10-1 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 108-10-1: Effective Date: October 4, 1982; Sunset Date: October 4 , 1992

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

CAS# 108-10-1: 4/12b

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

SARA

Section 302 (RQ)

CAS# 108-10-1: final RQ = 5000 pounds (2270 kg)

Section 302 (TPQ)

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 108-10-1: acute, chronic, flammable, reactive.

Section 313

This material contains Methyl isobutyl ketone (CAS# 108-10-1, 99 5%),which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 108-10-1 is listed as a hazardous air pollutant (HAP). 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# 108-10-1 can be found on the following state right to know lists: California, New Jersey, Florida, Pennsylvania, Minnesota, Massachusetts.

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:

F

Risk Phrases:

R 11 Highly flammable.

Safety Phrases:

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

S 23 Do not inhale gas/fumes/vapour/spray.

S 33 Take precautionary measures against static discharges.

S 9 Keep container in a well-ventilated place.

WGK (Water Danger/Protection)

CAS# 108-10-1: 1

Canada

CAS# 108-10-1 is listed on Canada's DSL List. CAS# 108-10-1 is listed on Canada's DSL List.

This product has a WHMIS classification of B2, D2B.

CAS# 108-10-1 is listed on Canada's Ingredient Disclosure List.

Exposure Limits

Section 16 - Additional Information

MSDS Creation Date: 5/19/1999

Revision #2 Date: 8/02/2000

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.