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965720001  
DESCRIPTION

06/11/08

CAT NER

4-METHYL-2-PENTANONE 99 1

1. AC127390010

IMPORTANT SAFETY INFORMATION -- DO NOT DISCARD.

PLEASE ROUTE TO COMPANY SAFETY OFFICER.

VWR INTERNATIONAL  
PO BOX 706  
BRIDGEPORT, NJ 08014  
ATTN: SAFETY DIRECTOR 011

P O NUMBERS

1. IBSN4196504

FOR EACH CHEMICAL, AN MSDS SHEET WILL BE SENT ONLY ON THE FIRST SHIPMENT UNLESS A SUBSTANTIVE REVISION OCCURS.

REQUIRED MATERIAL SAFETY DATA SHEETS (MSDS) NOT INCLUDED IN THIS MAILING WILL FOLLOW UNDER SEPARATE COVER.  
THIS PACKET MAY CONTAIN MSDS FOR PRODUCTS MANUFACTURED BY OTHERS AND DISTRIBUTED BY FISHER / ACROS. THESE MSDS WERE PREPARED BY THE MANUFACTURER AND FISHER / ACROS. DISCLAIMS ALL LIABILITY FOR THE CONTENT.

## Material Safety Data Sheet

### 4-Methyl-2-pentanone

### Section 1 - Chemical Product and Company Identification

**MSDS Name:**

4-Methyl-2-pentanone

**Catalog Numbers:**
 12739-0000, 12739-0025, 12739-0200, 22217-0000, 22217-0025, 22217-5000, 25566-0000, 25566-0010,  
 25566-5000, 32792-0000, 32792-0010, 32792-0025, 42396-0000, 42396-0040, 42396-0200, 42396-5000
**Synonyms:**

4-Methylpentan-2-one; Isobutyl methyl ketone; Isopropylacetone; Methyl isobutyl ketone; MIBK.

**Company Identification:**
 Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel  
 Belgium,
**Company Phone Number:**

0032(0)14575211

**Emergency Phone Number:**

0032(0)14575299

**CHEMTREC Phone Number, US:**

(800) 424-9300

**CHEMTREC Phone Number, Europe:**

(202) 483-7616

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	Percent	EINECS/ ELINCS
108-10-1	4-Methyl-2-pentanone	99.5+	203-550-1

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

*Appearance: APHA: 15 max liquid*

*Danger! Flammable liquid and vapor. May cause liver and spleen damage. Harmful if inhaled. Causes eye, skin, and respiratory tract irritation. Repeated exposure may cause skin dryness or cracking. May form explosive peroxides. May cause central nervous system effects. Flash Point: 14°C.*

*Target Organs: Blood, Central nervous system, Liver, Spleen, Respiratory system, Eyes, Skin*

**Potential Health Effects**

**Material Safety Data Sheet**  
**4-Methyl-2-pentanone****Eye:**

Causes eye irritation.

**Skin:**

Causes skin irritation. May be harmful if absorbed through the skin. Repeated or prolonged exposure may cause drying and cracking of the skin.

**Ingestion:**

May cause irritation of the digestive tract. May cause liver damage. May be harmful if swallowed. May cause spleen damage. May cause blood abnormalities.

**Inhalation:**

Harmful if inhaled. Causes respiratory tract irritation. May cause liver damage. May cause central nervous system effects.

**Chronic:**

Adverse reproductive effects have been reported in animals. May cause kidney damage.

**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.

**Skin:**

Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

**Ingestion:**

Do not induce vomiting. Get medical aid.

**Inhalation:**

Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**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. Will burn if involved in a fire. Containers may explode in the heat of a fire. Flammable liquid and vapor. May form explosive peroxides.

**Extinguishing Media:**

Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Autoignition Temperature:**

460°C ( 860.00°F)

**Explosion Limits:**

Lower: 1.4 Vol %      Upper: 7.5 Vol %

## Material Safety Data Sheet

### 4-Methyl-2-pentanone

**Flash Point:**

14°C ( 57.20°F)

**NFPA Rating:**

(estimated) Health: 2; Flammability: 3; Instability: 2

### 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. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

### Section 7 - Handling and Storage

**Handling:**

Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Keep away from heat, sparks and flame. Do not ingest or inhale. Container should be opened by a technically qualified person. Use only in a chemical fume hood. If peroxide formation is suspected, do not open or move container.

**Storage:**

Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources. May form explosive peroxides on prolonged storage.

### Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:**

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

**Exposure Limits**

Chemical Name:	ACGIH	NIOSH	OSHA
4-Methyl-2-pentanone	50 ppm TWA;75 ppm STEL	50 ppm TWA; 205 mg/m <sup>3</sup> TWA 500 ppm IDLH	100 ppm TWA; 410 mg/m <sup>3</sup> TWA;

**OSHA Vacated PELs**4-Methyl-2-pentanone: 50 ppm TWA; 205 mg/m<sup>3</sup> TWA**Personal Protective Equipment**



## Material Safety Data Sheet

### 4-Methyl-2-pentanone

**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:**

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:** Liquid

**Color:** Clear, colorless - APHA: 15 max

**Odor:** Sweet, camphor-like.

**Odor threshold value:** 0.88 ppm (detectable); 2.1 ppm (recognizable)

**pH:** No information found

**Vapor Pressure:** 21.5 mbar @ 20°C

**Vapor Density:** 3.45 (air=1)

**Evaporation Rate:** 1.6 (butyl acetate=1)

**Viscosity:** No information found

**Boiling Point:** 117.4°C @ 760 mm Hg

**Freezing/Melting Point:** -84°C

**Decomposition Temperature:** No information found

**Solubility in water:** Soluble.

**Specific Gravity/Density:** 0.800

**Molecular Formula:** C<sub>6</sub>H<sub>12</sub>O

**Molecular Weight:** 100.16

## Section 10 - Stability and Reactivity

**Chemical Stability:**

May form explosive peroxides. Air sensitive.

**Conditions to Avoid:**

Incompatible materials, ignition sources, exposure to air, excess heat

**Incompatibilities with Other Materials**

Strong oxidizing agents, reducing agents, strong bases, potassium tert-butoxide

**Hazardous Decomposition Products**

Carbon monoxide, carbon dioxide

**Hazardous Polymerization**

Has not been reported

**Material Safety Data Sheet**  
**4-Methyl-2-pentanone****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/m<sup>3</sup>  
Inhalation, mouse: LC50 = 23300 mg/m<sup>3</sup>  
Inhalation, rat: LC50 = 100 gm/m<sup>3</sup>  
Oral, mouse: LD50 = 1900 mg/kg  
Oral, mouse: LD50 = 2850 mg/kg  
Oral, rat: LD50 = 2080 mg/kg  
Oral, rat: LD50 = 4600 mg/kg.

**Carcinogenicity:**

CAS# 108-10-1: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:**

No information found

**Teratogenicity:**

Teratogenic effects have occurred in experimental animals.

**Reproductive:**

Adverse reproductive effects have occurred in experimental animals.

**Mutagenicity:**

No information found

**Neurotoxicity:**

No information found

**Other:**

See actual entry in RTECS for complete information.

**Section 12 - Ecological Information****Ecotoxicity:**

Fish: Fathead Minnow: LC50 = 505 mg/L; 96 Hr.; Flow through; 25 degrees C, pH 7.5  
Fish: Goldfish: LC50 = 460 mg/L; 24 Hr.; Unspecified  
Water flea Daphnia: EC50 = 4280.0 mg/L; 24 Hr.; Unspecified  
Algae: EC50 = 400 mg/L; 96 Hr.; Unspecified  
Bacteria: Phytobacterium phosphoreum: EC50 = 79.6 mg/L; 5 minutes; Microtox test

**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.



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### 4-Methyl-2-pentanone

**Physical:**

No information found

**Other:**

Do not empty into drains.

### 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 Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P Series Wastes**

None of the components are on this list.

**RCRA U Series Wastes**

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

### Section 14 - Transport Information

**US DOT****Canadian TDG**

**Proper Shipping Name:** METHYL  
ISOBUTYL  
KETONE

METHYL  
ISOBUTYL  
KETONE

**Hazard Class:** 3

3

**UN Number:** UN1245

UN1245

**Packing Group:** II

II

USA RQ: CAS# 108-10-1: 5000 lb final RQ; 2270 kg final RQ

### Section 15 - Regulatory Information

**US Federal****TSCA**

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

**Health and Safety Reporting List**

CAS# 108-10-1: Effective 10/4/82, Sunset 10/4/92

**Chemical Test Rules**

CAS# 108-10-1: 40 CFR 799.5000

**TSCA Section 12b**

None of the components are on this list.

**TSCA Significant New Use Rule (SNUR)**

None of the components are on this list.

**CERCLA Hazardous Substances and corresponding RQs**

CAS# 108-10-1: 5000 lb final RQ; 2270 kg final RQ



## Material Safety Data Sheet

### 4-Methyl-2-pentanone

#### SARA Section 302 Extremely Hazardous Substances

None of the components are on this list.

#### SARA Hazard Categories

CAS# 108-10-1: immediate, delayed, fire, reactive.

#### SARA Section 313

This material contains 4-Methyl-2-pentanone (CAS# 108-10-1, 99.5+%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 372.

#### Clean Air Act - Hazardous Air Pollutants (HAPs)

CAS# 108-10-1 is listed as a hazardous air pollutant (HAP).

#### Clean Air Act - Class 1 Ozone Depletors

None of the components are on this list.

#### Clean Air Act - Class 2 Ozone Depletors

None of the components are on this list.

#### Clean Water Act - Hazardous Substances

None of the components are on this list.

#### Clean Water Act - Priority Pollutants

None of the components are on this list.

#### Clean Water Act - Toxic Pollutants

None of the components are on this list.

#### OSHA - Highly Hazardous

None of the components are on this list.

#### OSHA - Specifically Regulated Chemicals

None of the components are on this list.

### US State

#### State Right to Know

4-Methyl-2-pentanone can be found on the following state Right-to-Know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

#### California Prop 65

None of the components are on this list.

#### California No Significant Risk Level

None of the components are on this list.

### European/International Regulations

#### European Labelling in Accordance with EC Directives:

Hazard Symbols: F XN

Risk Phrases: R 11 Highly flammable.

R 20 Harmful by inhalation.

R 36/37 Irritating to eyes and respiratory system.

R 66 Repeated exposure may cause skin dryness or cracking.

Safety Phrases: S 9 Keep container in a well-ventilated place.

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

S 29 Do not empty into drains.

#### WGK (Water Danger/Protection)

No information found



**Material Safety Data Sheet**  
**4-Methyl-2-pentanone****United Kingdom Occupational Exposure Limits**

No information found

**United Kingdom Maximum Exposure Limits**

No information found

**Canadian DSL/NDSL**

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

**Canadian WHMIS Classifications**

This product has a WHMIS classification of B2, D1B, 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**

CAS# 108-10-1 is listed on the Canadian Ingredient Disclosure List.

**Section 16 - Other Information**Color information has been  
MSDS Creation Date: May 19, 1999  
Revision Date: June 5, 2008**Revisions were made in Sections:**

3, 5, 7, 10

*This MSDS is intended for review and guidance in the receipt, storage, handling, use and disposal of product purchased from us, and for no other purpose. Use this product only as directed and in accordance with applicable instructions and warnings provided with the product. Please consult your institution's policies regarding use of this product. If you have obtained this MSDS other than in connection with the supply of this product from us, this MSDS should be consulted for general information only, and should not be relied upon for any purpose. As with the use of all hazardous materials, you should in all instances follow the guidance of the MSDS provided or available with the specific product purchased.*