

## Section 1 - Product and Company Information

Product Name 4-HEPTANONE  
 Product Number 46204  
 Brand FLUKA  
 Company Sigma-Aldrich Canada, Ltd  
 Address 2149 Winston Park Drive  
 Oakville ON L6H 6J8 CA  
 Technical Phone: 9058299500  
 Fax: 9058299292  
 Emergency Phone: 800-424-9300

## Section 2 - Composition/Information on Ingredient

Substance Name 4-HEPTANONE CAS # 123-19-3 SARA 313 No  
 Formula C7H14O  
 Synonyms Butyrone \* Dipropyl ketone (ACGIH) \* GBL \* Heptan-4-one \* Propyl ketone  
 RTECS Number: MJ5600000

## Section 3 - Hazards Identification

EMERGENCY OVERVIEW  
 Combustible (USA) Flammable (EU).

HMIS RATING  
 HEALTH: 0  
 FLAMMABILITY: 2  
 REACTIVITY: 0

NFPA RATING  
 HEALTH: 1  
 FLAMMABILITY: 2  
 REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

ORAL EXPOSURE  
 If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE  
 If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE  
 In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE  
 In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

## Section 5 - Fire Fighting Measures

FLASH POINT  
 120.2 °F 49 °C Method: closed cup

AUTOIGNITION TEMP  
 N/A

FLAMMABILITY  
 N/A

EXTINGUISHING MEDIA  
 Suitable: For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

FIREFIGHTING  
 Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Combustible liquid. Emits toxic fumes under fire conditions.

## Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL  
 Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)  
 Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP  
 Cover with dry-lime, sand, or soda ash. Place in covered containers using non-sparking tools and transport outdoors. Ventilate area and wash spill site after material pickup is complete.

## Section 7 - Handling and Storage

HANDLING  
 User Exposure: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE  
 Suitable: Keep tightly closed. Keep away from heat and open flame.  
 Store at 2-8°C

## Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS  
 Safety shower and eye bath. Mechanical exhaust required.

## PERSONAL PROTECTIVE EQUIPMENT

FLUKA - 46204 www.sigma-aldrich.com Page 2

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Hand: Compatible chemical-resistant gloves. Eye: Chemical safety goggles.

## GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

## EXPOSURE LIMITS, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	50 PPM
USA	NIOSH	TWA	50 PPM

## EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDSch	230 mg/m3
Poland		NDSP	-

## Section 9 - Physical/Chemical Properties

Appearance Physical State: Liquid

Property	Value	At Temperature or Pressure
Molecular Weight	114.19 AMU	
pH	N/A	
BP/BP Range	145 °C	760 mmHg
MP/MP Range	- 33.0 °C	
Freezing Point	N/A	
Vapor Pressure	5.2 mmHg	20 °C
Vapor Density	3.93 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.817 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
WOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Surface Tension	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point	120.2 °F 49 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.407	
Optical Rotation	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

N/A - not available

FLUKA - 46204 www.sigma-aldrich.com Page 3

## Section 10 - Stability and Reactivity

STABILITY  
 Stable: Stable.  
 Materials to Avoid: Strong oxidizing agents, Strong reducing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS  
 Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION  
 Hazardous Polymerization: Will not occur

## Section 11 - Toxicological Information

ROUTE OF EXPOSURE  
 Skin Contact: May cause skin irritation.  
 Skin Absorption: May be harmful if absorbed through the skin.  
 Eye Contact: May cause eye irritation.  
 Inhalation: May be harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract.  
 Ingestion: May be harmful if swallowed.

## SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## TOXICITY DATA

Oral  
 Rat  
 3730 UL/KG  
 LD50

Inhalation  
 Rat  
 2,690 ppm  
 LC50  
 Remarks: Lungs, Thorax, or Respiration:Respiratory depression.  
 Behavioral:Somnolence (general depressed activity).  
 Behavioral:Sleep.

## Skin

Rabbit  
 5660 UL/KG  
 LD50

## IRRITATION DATA

Skin  
 Rabbit  
 500 mg  
 24H  
 Remarks: Mild irritation effect

## Eyes

Rabbit  
 500 mg  
 24H  
 Remarks: Mild irritation effect

## Section 12 - Ecological Information

FLUKA - 46204 www.sigma-aldrich.com Page 4

No data available.

## Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION  
 Contact a licensed professional waste disposal service to dispose of this material. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

## Section 14 - Transport Information

DOT  
 Proper Shipping Name: Dipropyl ketone  
 UN#: 2710  
 Class: 3  
 Packing Group: Flammable liquid III  
 Hazard Label: Flammable liquid  
 PIH: Not PIH

## IATA

Proper Shipping Name: Dipropyl ketone  
 IATA UN Number: 2710  
 Hazard Class: 3  
 Packing Group: III

## Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION  
 Symbol of Danger: Xn  
 Indication of Danger: Harmful.  
 R: 10-20  
 Risk Statements: Flammable. Harmful by inhalation.  
 S: 24/25  
 Safety Statements: Avoid contact with skin and eyes.

## US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Combustible (USA) Flammable (EU).  
 Safety Statements: Keep away from sources of ignition - no smoking.

## UNITED STATES REGULATORY INFORMATION

TSCA LISTED: No  
 SARA INVENTED ITEM: Yes

## CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.  
 DSL: Yes  
 NDSL: No

## Section 16 - Other Information

DISCLAIMER  
 For R&D use only. Not for drug, household or other uses.

## WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our

FLUKA - 46204 www.sigma-aldrich.com Page 5

knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

FLUKA - 46204 www.sigma-aldrich.com Page 6