

Material Safety Data Sheet

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Version 1.2

According to 91/155/EEC

1 - Product and Company Information

Product Name	4-HYDROXY-4-METHYL-2-PENTANONE, 99%
Product Number	H41544
Company	Sigma-Aldrich Pte Ltd #08-01 Citilink Warehouse Singapore 118529 Singapore
Technical Phone #	65 271 1089
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
4-HYDROXY-4-METHYL-2-PENTANONE	123-42-2	204-626-7	603-017-00-7

Formula	C6H12O2
Molecular Weight	116.16 AMU
Synonyms	Diacetonalcool (Dutch) * Diacetonalcool (Italian) * Diacetonalcohol (German) * Diacetone * Diacetone alcohol (ACGIH:OSHA) * Diacetone-alcool (French) * Diketone alcohol * 4-Hydroxy-2-keto-4-methylpentane * 4-Hydroxy-4-methyl-pentan-2-on (German, Dutch) * 4-Hydroxy-4-methylpentanone-2 * 4-Hydroxy-4-methyl-2-pentanone * 4-Hydroxy-4-methyl pentan-2-one * 4-Hydroxy-4-methyl-2-pentanone (OSHA) * 4-Idrossi-4-metil-pentan-2-one (Italian) * 2-Methyl-2-pentanol-4-one * Pyranton * Tyranton

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Highly flammable. Irritating to eyes.

4 - First Aid Measures

AFTER INHALATION

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

AFTER SKIN CONTACT

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

AFTER EYE CONTACT

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

AFTER INGESTION

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

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

Unsuitable: Water may be effective for cooling, but may not effect extinguishment.

SPECIAL RISKS

Specific Hazard(s): Flammable liquid. Emits toxic fumes under fire conditions.

Explosion Hazards: Vapor may travel considerable distance to source of ignition and flash back. Container explosion may occur under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area. Shut off all sources of ignition.

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.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep container closed. Keep away from heat, sparks, and open flame.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Safety shower and eye bath. Use nonsparking tools. Mechanical exhaust required.

GENERAL HYGIENE MEASURES

Wash thoroughly after handling. Wash contaminated clothing before reuse.

EXPOSURE LIMITS

Country	Source	Type	Value
Poland		NDS	240 mg/m3

Poland	NDSCh	-
Poland	NDSP	
EXPOSURE LIMITS - DENMARK		
Source	Type	Value
OEL	TWA	240 mg/m3 50 ppm
EXPOSURE LIMITS - GERMANY		
Source	Type	Value
TRGS 900	OEL	96 mg/m3 20 ppm
Remarks: H		
EXPOSURE LIMITS - NORWAY		
Source	Type	Value
	OEL	120 mg/m3 25 ppm
EXPOSURE LIMITS - SWEDEN		
Source	Type	Value
	LLV (Level)	120 mg/m3 25 ppm
EXPOSURE LIMITS - SWITZERLAND		
Source	Type	Value
OEL	OEL	240 mg/m3 50 ppm
EXPOSURE LIMITS - UNITED KINGDOM		
Source	Type	Value
OEL	OEL	241 mg/m3 50 ppm
OEL	STEL	362 mg/m3 75 ppm

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Color: Slightly yellow Form: Clear liquid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	158 - 162 °C	
MP/MP Range	N/A	
Flash Point	62 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	Lower: 1.8 % Upper: 6.9 %	
Vapor Pressure	N/A	
SG/Density	0.938 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	

Vapor Density	4 g/l
Saturated Vapor Conc.	N/A
Evaporation Rate	N/A
Bulk Density	N/A
Decomposition Temp.	N/A
Solvent Content	N/A
Water Content	N/A
Surface Tension	N/A
Conductivity	N/A
Miscellaneous Data	N/A
Solubility	N/A

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Oxidizing agents, Strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: SA9100000

ACUTE TOXICITY

LD50

Oral

Rat

2520 mg/kg

Remarks: Behavioral:Tremor. Behavioral:Convulsions or effect on seizure threshold. Liver:Other changes.

LD50

Oral

Mouse

3950 mg/kg

LD50

Intraperitoneal

Mouse

933 MG/KG

LD50

Skin

Rabbit

13500 mg/kg

IRRITATION DATA

Eyes

Human

100 ppm

15M

Skin

Rabbit

10 mg

24H
Remarks: Open irritation test

Skin
Rabbit
500 mg
Remarks: Open irritation test

Eyes
Rabbit
20 mg
Remarks: Severe irritation effect

Eyes
Rabbit
0.1 ml
24H
Remarks: Severe irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

Can cause CNS depression. Headache, nausea, drowsiness, and fatigue. Blood effects. Prolonged or repeated contact with skin can cause defatting and dermatitis. Contact with eyes can cause redness, tearing, and blurred vision. Ingestion may cause gastrointestinal irritation. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

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

TARGET ORGAN INFORMATION

Blood. Liver. Kidneys.

12 - Ecological Information

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish
Time: 96 h
Value: > 100 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 24 h
Value: 9,000 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 1148
Class: 3
PG: III
Proper Shipping Name: Diacetone alcohol

IMDG

UN#: 1148
Class: 3
PG: III
Proper Shipping Name: Diacetone alcohol
Marine Pollutant: No
Severe Marine Pollutant: No

IATA

UN#: 1148
Class: 3
PG: III
Proper Shipping Name: Diacetone alcohol
Inhalation Packing Group I: No

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 603-017-00-7
INDICATION OF DANGER: F Xi
Highly Flammable. Irritant.
R-PHRASES: 11 36
Highly flammable. Irritating to eyes.
S-PHRASES: 7 16 24/25
Keep container tightly closed. Keep away from sources of
ignition - no smoking. Avoid contact with skin and eyes.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 1

SWITZERLAND

SWISS POISON CLASS: 4

NORWAY

Labelling for organic solvents where the package is 1liter or
more.
YL-tall m3/l: 5483
YL-group: 5
Risk phrases: 20
Harmful by inhalation.
Safety phrases: 38 42 210
In case of insufficient ventilation, wear suitable respiratory
equipment. During fumigation/spraying wear suitable respiratory
equipment. Use compressed air- or fresh air line breathing
apparatus in confined spaces.

16 - Other Information

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

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