



**LEONID CHEMICALS PVT. LTD.,
BANGALORE**

An ISO-9001:2008 Certified Company

Quality Assurance Department

(CODE) DOCUMENT : WI

(CODE) SECTION : WI/SM

(DATE) : 01.04.2011



Issue : 02

Rev.: 00

Title: MATERIAL SAFETY DATA SHEET (MSDS): ACETYL ACETONE

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SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Acetyl acetone

Catalog Numbers: A088, A089

Synonyms: 2,4-Pentanedione,

CAS-No. : 123-54-6

Company Information:

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SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flammable liquids (Category 3)

Acute toxicity, Oral (Category 4)

Acute toxicity, Dermal (Category 3)

Acute toxicity, Inhalation (Category 3)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Flammable. Harmful by inhalation. Harmful in contact with skin. Harmful if swallowed.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Signal word Danger

Hazard statement(s)

H226

Flammable liquid and vapour.

H302

Harmful if swallowed.

H311

Toxic in contact with skin.

H331

Toxic if inhaled.

Precautionary statement(s)

P261

Avoid breathing vapours.

P280

Wear protective gloves/ protective clothing.

P311

Call a POISON CENTER or doctor/ physician.



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Statements

According to European Directive 67/548/EEC as amended.

Hazard symbol(s)

R-phrase(s)

R10 Flammable.

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.

S-phrase(s)

S21 When using do not smoke.

S23 Do not breathe gas/fumes/vapour/spray.

S24/25 Avoid contact with skin and eyes.

2.3 Other hazards - none

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms : 2,4-Pentanedione

Formula : C₅H₈O₂

Molecular Weight : 100,12 g/mol

Component	Concentration
Acetylacetone	
CAS-No.	123-54-6
EC-No.	204-634-0
Index-No	606-029-00-0

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed



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Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

- 4.2 **Most important symptoms and effects, both acute and delayed**
Inhalation may provoke the following symptoms:, Dizziness, Suffocation
- 4.3 **Indication of any immediate medical attention and special treatment needed**
no data available

SECTION 5: Firefighting measures

- 5.1 **Extinguishing media**
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
- 5.2 **Special hazards arising from the substance or mixture**
Carbon oxides
- 5.3 **Advice for firefighters**
Wear self contained breathing apparatus for fire fighting if necessary.
- 5.4 **Further information**
Use water spray to cool unopened containers.

SECTION 6: Accidental release measures

- 6.1 **Personal precautions, protective equipment and emergency procedures**
Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- 6.2 **Environmental precautions**
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
- 6.3 **Methods and materials for containment and cleaning up**
Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).
- 6.4 **Reference to other sections**
For disposal see section 13.

SECTION 7: Handling and storage



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7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end uses

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Splash protection

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: > 30 min

Material tested: Butoject

test method: EN374



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If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance Form : liquid
- b) Odour : no data available
- c) Odour Threshold :no data available
- d) pH 6 at 200 g/l at 20 °C
- e) Melting point/freezing point :Melting point/range: -23 °C - lit.
- f) Initial boiling point and boiling range :140,4 °C - lit.
- g) Flash point :38 °C - closed cup
- h) Evaporation rate :no data available
- i) Flammability (solid, gas) :no data available
- j) Upper/lower flammability or explosive limits :Upper explosion limit: 11,4 %(V)
:Lower explosion limit: 1,7 %(V)
- k) Vapour pressure :no data available
- l) Vapour density :3,46 - (Air = 1.0)
- m) Relative density :0,975 g/mL at 25 °C
- n) Water solubility :soluble
- o) Partition coefficient: noctanol/water :log Pow: 1,9
- p) Autoignition temperature :no data available
- q) Decomposition



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- temperature :no data available
- r) Viscosity :no data available
- s) Explosive properties :no data available
- t) Oxidizing properties :no data available

9.2 Other safety information

Surface tension 31,2 mN/m at 20 °C

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

no data available

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidizing agents, Reducing agents, Strong bases, Metals

10.6 Hazardous decomposition products

Other decomposition products - no data available

SECTION 11: Toxicological information

Acute toxicity

LD50 Oral - rat - male - 760 mg/kg

LD50 Oral - rat - female - 570 mg/kg

LC50 Inhalation - rat - 4 h - 5,1 mg/l

LD50 Dermal - rabbit - male - 790 mg/kg

LD50 Dermal - rabbit - female - 1.370 mg/kg

Skin corrosion/irritation

Skin - rabbit - Mild skin irritation

Serious eye damage/eye irritation

Eyes - rabbit - Severe eye irritation

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

Genotoxicity in vitro - Hamster - ovary



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Mutation in mammalian somatic cells.
Genotoxicity in vivo - rat - negative
Micronucleus test

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Ingestion of excessive amounts by pregnant animals resulted in maternal and foetal toxicity.

Developmental Toxicity - rat - Inhalation

Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation Toxic if inhaled. May cause respiratory tract irritation.

Ingestion Harmful if swallowed.

Skin Toxic if absorbed through skin. May cause skin irritation.

Eyes Causes eye burns.

Signs and Symptoms of Exposure

Inhalation may provoke the following symptoms: , Dizziness, Suffocation

Additional Information

RTECS: SA1925000

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish LC50 - other fish - 106 mg/l - 96 h

Toxicity to daphnia and

other aquatic invertebrates

EC50 - Daphnia magna (Water flea) - 40 mg/l - 24 h

EC100 - Daphnia magna (Water flea) - 90 mg/l - 24 h

LC50 - Daphnia magna (Water flea) - 34.409 µg/l - 48 h

12.2 Persistence and degradability

no data available



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- 12.3 Bioaccumulative potential
no data available
- 12.4 Mobility in soil
no data available
- 12.5 Results of PBT and vPvB assessment
no data available
- 12.6 Other adverse effects
no data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 2310 IMDG: 2310 IATA: 2310

14.2 UN proper shipping name

ADR/RID: PENTANE-2,4-DIONE

IMDG: PENTANE-2,4-DIONE

IATA: Pentane-2,4-dione

14.3 Transport hazard class(es)

ADR/RID: 3 (6.1) IMDG: 3 (6.1) IATA: 3 (6.1)

14.4 Packaging group

ADR/RID: III

IMDG: III

IATA: III

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no IATA: no

14.6 Special precautions for user

no data available



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SECTION 15: Regulatory information



This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
no data available
- 15.2 Chemical Safety Assessment
no data available

SECTION 16 - ADDITIONAL INFORMATION

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 Leonid Chemicals Pvt. Ltd. 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 Leonid Chemicals Pvt. Ltd. has been advised of the possibility of such damages.

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Title: SPECIFICATION MANUAL - ACETYL ACETONE			Issue : 02 Rev.: 00 1 Page of 1

Specification manual - Acetyl acetone

$C_5H_8O_2$

Mol Wt: 100.12

Product : Acetyl acetone LR
Description : Clear colourless liquid with camphor-like odour
Cat No : A089
Cas No : 123-54-6
Prepared Date : 07.03-2005
Approved Date : 07.03-2005

REVISION HISTORY			
Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	07.03.2005
02/00	Reviewed no changes	S. Paul Joshua	01.04.2011
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		

Sl. No.	Tests	Specification	Protocol
		LR	
1	Assay (GC)	Min 98.0%	2/4/03
2	Water	1%	2/3.1-19
3	Density	0.973 g/ml	2/3.1-4.2
4	Boiling point	135.5°C	2/3.1-03

Approved By: S.Paul Joshua, Head Quality Control and Quality Assurance