



**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 CHLORIDE

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SECTION 1- CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MSDS Name: Acetyl chloride

Catalog Numbers: A091, A092

Synonyms: Acetic acid chloride; Ethanoyl chloride

CAS-No. : 75-36-5

Company Information:

LEONID CHEMICALS Pvt Ltd,
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SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Skin corrosion (Category 1B), H314

For the full text of the H-Statements mentioned in this Section, see Section 16.

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

F Highly flammable R11

C Corrosive R14

R34

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Signal word Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.

H314 Causes severe skin burns and eye damage.

Precautionary statement(s)



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- P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 Immediately call a POISON CENTER or doctor/ physician.

Supplemental Hazard information (EU)

EUH014 Reacts violently with water.

2.3 Other hazards

Lachrymator.

SECTION 3: Composition/information on ingredients

3.1 Substances

Formula : C₂H₃ClO
Molecular Weight : 78,50 g/mol
CAS-No. : 75-36-5
EC-No. : 200-865-6
Index-No. : 607-011-00-5

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Acetyl chloride		
CAS-No. 75-36-5 EC-No. 200-865-6 Index-No. 607-011-00-5	Flam. Liq. 2; Skin Corr. 1B; H225, H314, EUH014	<= 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
Acetyl chloride		
CAS-No. 75-36-5 EC-No. 200-865-6 Index-No. 607-011-00-5	F, C, R11 - R14 - R34	<= 100 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1 Description of first aid measures



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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

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. 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

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

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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
Dry powder

5.2 Special hazards arising from the substance or mixture

Carbon oxides, Hydrogen chloride gas

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

Water hydrolyzes material liberating acidic gas which in contact with metal surfaces can generate flammable and/or explosive hydrogen gas.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



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Use personal protective equipment. Avoid breathing vapours, 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.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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). Do not flush with water.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Flash back possible over considerable distance. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

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 reopened must be carefully resealed and kept upright to prevent leakage. Keep away from water. Never allow product to get in contact with water during storage. Hydrolyses readily. Handle and store under inert gas.

7.3 Specific end use(s)

A part from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.



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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 EN166(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 contact

Material: butyl-rubber

Minimum layer thickness: 0,3 mm

Break through time: 146 min

Material tested: Butyl-rubber

test method: EN374

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 and safety officer 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 AXBEK (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).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.



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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance Form : liquid, clear
Colour : colourless
- b) Odour :no data available
- c) Odour Threshold :no data available
- d) Ph :no data available
- e) Melting point/freezing point :Melting point/range: -112 °C - lit.
- f) Initial boiling point and boiling range :52 °C - lit.
- g) Flash point :5 °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: 19 %(V)
:Lower explosion limit: 7,3 %(V)
- k) Vapour pressure :805,765 hPa at 20 °C
:2.228,432 hPa at 55 °C
- l) Vapour density :2,71 - (Air = 1.0)
- m) Relative density :1,104 g/cm³ at 25 °C
- n) Water solubility :no data available
- o) Partition coefficient: n-octanol/water :no data available
- p) Auto-ignition temperature :no data available
- q) Decomposition 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

Relative vapour density 2,71 - (Air = 1.0)

SECTION 10: Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.



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10.3 Possibility of hazardous reactions

Reacts violently with water.

10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight. Exposure to moisture.

10.5 Incompatible materials

Water, Alcohols, Oxidizing agents, Strong bases

10.6 Hazardous decomposition products

Other decomposition products - no data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - rat - 910 mg/kg

Remarks: Peripheral Nerve and Sensation: Spastic paralysis with or without sensory change. Behavioral: Excitement. Lungs, Thorax, or Respiration: Other changes.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitisation

no data available

Germ cell mutagenicity

no data available

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

no data available

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available



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Aspiration hazard

no data available

Additional Information

RTECS: AO6390000

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish

LC50 - Pimephales promelas (fathead minnow) - 42 mg/l - 96 h

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Harmful to aquatic life. 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



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- 14.1 UN number
ADR/RID: 1717 IMDG: 1717 IATA: 1717
- 14.2 UN proper shipping name
ADR/RID: ACETYL CHLORIDE
IMDG: ACETYL CHLORIDE
IATA: Acetyl chloride
- 14.3 Transport hazard class(es)
ADR/RID: 3 (8) IMDG: 3 (8) IATA: 3 (8)
- 14.4 Packaging group
ADR/RID: II IMDG: II IATA: II
- 14.5 Environmental hazards
ADR/RID: no IMDG Marine pollutant: no IATA: no
- 14.6 Special precautions for user
no data available

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
For this product a chemical safety assessment was not carried out

SECTION 16 - Other information

Full text of H-Statements referred to under sections 2 and 3.

EUH014	Reacts violently with water.
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
Skin Corr.	Skin corrosion

Full text of R-phrases referred to under sections 2 and 3

C	Corrosive
F	Highly flammable
R11	Highly flammable.



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R14 Reacts violently with water.
R34 Causes burns.

SECTION 17 - 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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	LEONID CHEMICALS PVT. LTD., BANGALORE An ISO-9001:2008 Certified Company Quality Assurance Department	(CODE) DOCUMENT : R/QPM/8.2.4/06	
		(CODE) SECTION : A091/A092	
Title: SPECIFICATION MANUAL - ACETYL CHLORIDE			Issue : 02 Rev.: 00
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Specification manual - Acetyl Chloride

C₂H₃ClO

Mol Wt: 78.50

Product : Acetyl Chloride AR, LR, ACS

Description : A clear liquid, colourless or not more than very slightly yellow. The product issued contains small amounts of acetic and hydrochloric acids.

Cat No : A091/A092

Cas No : 506-96-7


Prepared Date : 04.01.2008

Approved Date : 04.01.2008

REVISION HISTORY			
Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	04.01.2008
02/00	Reviewed no changes	S. Paul Joshua	01.04.2010
Next Review Due :	02.04.2015		
To be reviewed by :	Head-QC/QA		


Sl. No.	Tests	Specification		
		AR	LR	ACS
1	Assay (GC)	98%	NLT 99.0 percent	≥98.5%
2	Color (APHA)	-	-	20
3	Distillation range	NLT 95 percent between 50.0°C and 52.0°C	-	-
4	Density		1.142	-
5	Insoluble matter	0.0025 percent	-	0.0025%
6	Non-volatile matter	0.005 percent	-	-
7	Phosphorus compounds (P)	0.001 percent	-	-
8	Phosphate (PO ₄)		-	0.002%
9	Sulphate (SO ₄)	0.0002 percent	-	-

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

 Chemlabs	LEONID CHEMICALS PVT. LTD., BANGALORE An ISO-9001:2008 Certified Company Quality Assurance Department	(CODE) DOCUMENT : R/QPM/8.2.4/06 (CODE) SECTION : A091/A092 (DATE) : 01.04.2011	 Issue : 02 Rev.: 00
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10	Iron (Fe)	0.0005 percent	-	5 ppm
11	Heavy metals (as Pb)	0.0005 percent	-	5ppm
12	Residue after evaporation	-	-	0.005%

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Specification manual - Acetyl Chloride

C₂H₃ClO

Mol Wt: 78.50

Product

: Acetyl Chloride LR

Description

: A clear liquid, colourless or not more than very slightly yellow. The product issued contains small amounts of acetic and hydrochloric acids.

Cat No

: A092

Cas No

: 75-36-5

Prepared Date

: 04.01.2008

Approved Date

: 04.01.2008

REVISION HISTORY			
Issue/Rev	Description of Change	Author	Effective Date
01/00	Initial Release	S. Paul Joshua	04.01.2008
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)	NLT 99.0 %	2/4/03
4	Density	1.142	2/3.1-4.2

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

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