

### Material Safety Data Sheet

### ISO NONANOYL CHLORIDE

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#### **Section 1 – Product and Company Information**

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Substance : 3, 5, 5-Trimethylhexanoyl Chloride  
Trade Name : Iso Nonanoyl Chloride  
Chemical Family : Carboxylic Acid Chloride  
Company : Shiva Pharmachem Ltd.  
Plot No. 588,  
Village Luna – 391440  
Taluka: Padra,  
District: Vadodara, Gujarat  
India  
Phone No. : +91 2662 221021 / 224360  
Fax No. : +91 2662 223314

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#### **Section 2 – Hazards Identification**

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##### **2.1 Classification of the substances or mixture**

##### **Classification according to regulations (EC) no 1272 / 2008**

Acute toxicity, inhalation (Category 4), Skin Corrosion, (Category 1B)

##### **Classification according to EU directives 67/548/EEC or 1999/45/EC**

Reacts violently with water, Causes, Harmful by inhalation.

##### **2.2 Labeling elements**

##### **Labeling according to EC 1272 / 2008 (CLP)**

##### **Pictogram**



##### **Single word**

**Danger**

##### **Hazard Elements**

H314 Causes severe skin burn and eye damage.  
H332 Harmful if inhaled.  
EUH014 Reacts violently with water.

##### **Precautionary statements**

P280 Wear protective gloves/protective clothing/eye and face protection

IF IN EYES: Rinse cautiously for several minutes.  
Immediately call physician

##### **According to EU directives 67/548/EEC as amended**

##### **Hazard symbol(s)**

**Corrosive**



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**R PHRASE (s)**

**R14** Reacts violently with water.  
**R34** Causes burn.  
**R20** Harmful by inhalation

**S PHRASE (s)**

**S26** In case of contact with eyes rinse immediately with plenty of water and seek medical advice.  
**S27** Take off immediately all contaminated clothing.  
**S36/37/39** Wear suitable protective clothing, gloves and eye/face protection.  
**S45** In case of accident or you feel unwell, seek medical advice. (Show the label where possible)

**2.3 Other hazard**

Lachrymator.

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### Section 3 – Composition / Information on ingredients

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Product Name	CAS No.	EC No.	Mol. Formula	Mol. Weight
ISO Nonanoyl Chloride	36727-29-4	253-168-4	C <sub>9</sub> H <sub>17</sub> ClO	176.69 g/mol

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### Section 4 – First Aid Measures

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**4.1 Description of first aid measure**

**General advice**

Consult to physician. Show this safety data to the doctor.

**Inhalation**

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

**Skin Contact**

In Case of skin contact, flush with copious amounts of water for at least 15 minute.  
Remove contaminated clothing and shoes. Call a Physician.

**Eye Contact**

In Case of contact with eyes, flush with copious amounts of water for at least 15 minutes.  
Assure adequate flushing by separating the eyelids with fingers. Call a physician.

**Ingestion**

Do not induce vomiting. If Swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

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### Section 5 – Fire Fighting Measures

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**EXTINGUISHING MEDIA**

Suitable : Carbon dioxide, dry chemical powder.  
Unsuitable : Do not use water.

**SPECIAL RISKS**

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

**SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS**

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

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#### **Section 6 – Accidental Release Measures**

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

Evacuate area.

##### **PROCEDURE(S) OF PERSONAL PRECAUTION(S)**

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

##### **METHODS FOR CLEANING UP**

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

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#### **Section 7 – Handling and Storage**

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##### **HANDLING**

**Directions for Safe Handling:** Do not breathe vapor. Do not allow to get in eyes, on skin and on clothing. Avoid prolonged or repeated exposure.

##### **STORAGE**

**Conditions of Storage:** Keep tightly closed. Store in a cool dry place. Keep away from incompatible Materials. Do not allow contact with water.

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#### **Section 8 - Exposure Controls / Personal Protection**

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##### **ENGINEERING CONTROLS**

Safety shower and eye bath. Use only in a chemical fume hood.

##### **GENERAL HYGIENE MEASURES**

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

##### **PERSONAL PROTECTIVE EQUIPMENT**

Respiratory Protection: 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 Protection:** Compatible chemical-resistant gloves.

**Eye Protection:** Chemical safety goggles.

**Special Protective Measures:** Face shield (8-inch minimum).

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#### **Section 9 - Physical and Chemical Properties**

<b>Appearance Physical State</b>	: Liquid
pH	: Acidic
BP/BP Range	: 188.0 - 190.0 °C at 760 mmHg
MP/MP Range	: Data not available
Flash Point	: 140 °C Method: closed cup
Flammability	:
Autoignition Temp	: 350°C
Oxidizing Properties	: Data not available
Explosive Properties	: Data not available
Explosion Limits	: LEL % (v) 17.1 ; UEL % (v) 26.3
Vapor Pressure	: 0.68 hPa 20°C, 4.90 hPa 50°C
SG/Density	: 0.93 g/cm <sup>3</sup> at 20°C
Solvent Content	: Nil
Water Content	: Not applicable as reacts violently with water
Conductivity	: Data not available
Solubility	: Miscible with Ethylene dichloride, toluene etc

#### **Section 10 - Stability and Reactivity**

##### **STABILITY**

Stable: Chemically Stable.

Materials to Avoid: Strong oxidizing agents, Water, Alcohols, Alkali metals, Amines.

##### **HAZARDOUS DECOMPOSITION PRODUCTS**

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen chloride gas.

##### **HAZARDOUS POLYMERIZATION**

Hazardous Polymerization: Will not occur

##### **CORROSION TO METAL**

**Corrosive effect on metal.**

#### **Section 11 - Toxicological Information**

##### **ACUTE TOXICITY**

LC50 Inhalation	Rat	240 ppm	4H
LD50 Oral	Rat	1700 mg/kg	

**Remarks** : Behavioral Somnolence (general depressed activity).

**Gastrointestinal** : Changes in structure or function of salivary glands.

Skin and Appendages

Other: Hair

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#### **SIGNS AND SYMPTOMS OF EXPOSURE**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin.

#### **ROUTE OF EXPOSURE**

##### **Skin Contact**

Causes burns.

##### **Skin Absorption**

May be harmful if absorbed through the skin.

##### **Eye Contact**

Causes burns.

##### **Inhalation**

Harmful if inhaled. May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

##### **Ingestion**

May be harmful if swallowed.

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### **Section 12 - Ecological Information**

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#### **Fish; Acute**

Salmo gairdneri, syn O mykiss/LC50 (96 hr) 160 mg/l.

#### **Aquatic plant**

Green algae/EC50 (72 hr) 40.8 mg/l

#### **Aquatic invertebrates; Acute**

Daphnia magna/ EC50 (48 hr) 26.9 mg/l

#### **Microorganism**

Toxicity to microorganisms;

Activated sludge, domestic/EC20 (3 hrs): 450 mg/l

#### **Degradability / persistence**

Moderately / partially biodegradable.

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#### **Section 13 - Disposal Considerations**

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##### **SUBSTANCE DISPOSAL**

Contact a licensed professional waste disposal service to dispose off this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

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#### **Section 14 - Transport Information**

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##### **UN**

UN No. : 2927  
Hazard Class : 6.1 (8)  
PG : II  
Proper Shipping Name : Toxic liquid, Corrosive, n.o.s. ( Isoonanoyl Chloride)

##### **IMDG**

UN No. : 2927  
Hazard Class : 6.1 (8)  
Packing Group : II  
Proper Shipping Name : Toxic liquid, Corrosive, n.o.s. ( Isoonanoyl Chloride)

##### **DOT**

UN No. : 2927  
Hazard Class : 6.1 (8)  
PG : II  
Proper Shipping Name : Toxic liquid, Corrosive, n.o.s. ( Isoonanoyl Chloride)

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#### **Section 15 - Regulatory Information**

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##### **CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES**

###### **INDICATION OF DANGER: C**

Corrosive.

###### **R-PHRASES: 14-34-20**

Reacts violently with water. Causes burns. Harmful by inhalation.

###### **S-PHRASES: 26-27-36/37/39-45**

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Take off immediately all contaminated clothing. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately.

##### **COUNTRY SPECIFIC INFORMATION**

Germany  
WGK: 1  
ID-Number: 1880  
KBWS-Decision

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#### Section 16 - Additional Information

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##### **NFPA Hazard Code**

HEALTH: 3 FIRES: 2 REACTIVITY: 2 SPECIAL:

##### **HMIS III rating**

Health: 3 Flammability: 2 Physical Hazard: 2

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