Material Safety Data Sheet

Pivaloyl Chloride

Section 1 - Product Identification

Synonyms : Trimethylacetyl Chloride

Molecular Weight : 120.58 g/mol

Chemical Formula : C_5H_9ClO

Company Identification : Tradeasia International Pte. Limited

Address : 133 Cecil Street # 12-03 Keck Seng Tower, Singapore
Tel: +65-6227 6365
Fax: +65-6225 6286
Email: contact@chemtradeasia.com

Recommended use of the chemical and restrictions on use:

Manufacturing of Substances, Laboratory chemicals.

Section 2 – Composition/Information on Ingredients

Product Name	EC Code/CAS No	Concentration
Pivaloyl Chloride	221-921-6/3282-30-2	<= 100%

Section 3 – Hazards Identification

3.1 GHS Classification

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 2), H330

Skin corrosion/irritation (Category 1), H314

Serious eye damage/eye irritation (Category 1), H318

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

3.2 Precautionary Statements

Hazard statement(s)

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H330 Fatal if inhaled.

Precautionary statement(s)

Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P264 Wash skin thoroughly after handling.

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

Response

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

3.3 Other hazards

Reacts violently with water. Lachrymator.

Section 4 – First-Aid Measures

4.1. Description of first aid mesaures

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. 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

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 3.2) and/or in section 11

4.3. Indication of any immediate medical attention and special treatment needed

N.A.

Section 5 – Fire Fighting 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 firefighting if necessary.

5.4 Further information

No data available.

Section 6 – Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. 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 section

For disposal see section 13.

Section 7 – Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. 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 opened must be carefully resealed and kept upright to prevent leakage.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1, no other specific uses are stipulated

Section 8 – Exposure Controls/Personal Protection

8.1. Control parameters

No available data.

8.2. Appropriate engineering controls

General industrial hygiene practice. Wash hands before breaks and at the end of workday.

8.3. Individual protection measures, such as personal protective equipment (PPE)

Respirator:

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).

Clothing:

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.

Gloves:

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.

Eye 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).

Section 9 – Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance : Clear colourless liquid

Odour : unpleasant

Odour threshold : N.A.

pH @ 20°C : N.A.

Melting point : -56°C

Boiling point : 105-106°C - lit

Flash point : 19°C – closed cup

Evaporation rate : N.A.

Flammability : No data available

Upper/lower flammability or explosive limits : UFL: 7.4% (V), LFL: 1.9% (V)

Vapour pressure: 40 mbar at 20°C, 38.59 Pa at 20°C

Vapour density : 4.16 (Air = 1.0)

Relative density : 0.979/cm^3 at 25°C – lit,

Solubility in water : No data available

Partition coefficient, n-octanol/water: 0.89 at 20°C

Auto-ignition temperature: No data available

Decomposition Temperature: N.A.

Surface tension: N.A.

Viscosity: No data available

Section 10 – Stability and Reactivity

10.1. Reactivity

No data available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Reacts violently with water.

10.4. Conditions to avoid:

Heat, flames and sparks. Exposure to moisture.

10.5. Incompatible materials

Alcohols, Oxidizing agents, Strong bases

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas.

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 - 920 mg/kg (Pivaloyl chloride)

LC50 Inhalation - Rat - 1 h - 500 mg/m³ (Pivaloyl chloride)

LD50 Dermal - Rat - 3.000 mg/kg (Pivaloyl chloride)

Skin corrosion/irritation

Skin – Rabbit (Pivaloyl chloride)

Result: Severe skin irritation

Serious eye damage/eye irritation

Eyes – Rabbit (Pivaloyl chloride)

Result: Severe eye irritation

Respiratory or skin sensitisation

No data available (Pivaloyl chloride)

Germ cell mutagenicity

No data available (Pivaloyl chloride)

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 (Pivaloyl chloride)

Specific target organ toxicity - single exposure

No data available (Pivaloyl chloride)

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available (Pivaloyl chloride)

Additional Information

RTECS: Not available

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea (Pivaloyl chloride)

Section 12 – Ecological Information

12.1 Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - > 300 mg/l - 96 h (Pivaloyl chloride)

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 320 mg/l - 24 h (Pivaloyl chloride)

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 75 mg/l - 96 h (Pivaloyl chloride)

12.2 Persistence and degradability

Biodegradability Result: - Readily biodegradable.

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available (Pivaloyl chloride)

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.

Section 13 – Disposal Considerations

13.1. Disposal 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: 2438 IMDG: 2438 IATA-DGR: 2438

14.2. UN proper shipping name: ADR/RID, IMDG, IATA-DGR – Trimethylacetyl Chloride

14.3. Transport of hazard classes : ADR/RID: 6.1 (3, 8) IMDG: 6.1 (3, 8) IATA-DGR: 6.1 (3, 8)

14.4. Packing group : ADR/RID: I IMDG: I IATA-DGR: I

14.5. Environmental hazards : ADR/RID: no IMDG Marine pollutant: no IATA-DGR: no

14.6. Special precautions for user : No data available

14.7. Incompatible materials:

Section 15 – Regulatory Information

15.1. Safety, health and environmental regulations for the substance/mixture:

Notification Status

No data available

Section 16 : Additional Information

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

H225 Highly flammable liquid and vapor.

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

H330 Fatal if inhaled.

16.2. Disclaimer of Liability

The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its accuracy, reliability or completeness. The conditions or methods of handling, storage use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. It is the user's responsibility to satisfy himself as to the suitableness and completeness of such information for his own particular use. This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable.