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| <b>Chloroform</b><br><b>CAS No 67-66-3</b> | <b>MATERIAL SAFETY DATA SHEET</b><br><b>SDS/MSDS</b> |
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Chloroform

CAS-No. : 67-66-3

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Industrial & for professional use only.

### 1.3 Details of the supplier of the safety data sheet

|           |   |
|-----------|---|
| Company   | Pallav Chemicals & Solvents Pvt. Ltd<br>253, Shiv Shakti Industrial Estate, Opp Mittal<br>Estate, Andheri Kurla Road, Andheri (E),<br>Mumbai - 400059 |
| Telephone | +91 22 4928 0000  |
| Email     | <a href="mailto:sales@pallavchemicals.com">sales@pallavchemicals.com</a>  |

### 1.4 Emergency Telephone

Number : +91 22 4928 0000 (Office Hours : 9.30 am to 6.30 pm)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No

**1272/2008** Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 3), H331

Skin irritation (Category 2), H315

Eye irritation (Category 2), H319

Carcinogenicity (Category 2), H351

Reproductive toxicity (Category 2), H361d

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Specific target organ toxicity - repeated exposure (Category 1), H372

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

Xn, Xi Harmful, Irritant R20, R22, R48/20/22, R36/38, R40, R63, R67

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

Pictogram



|                                |  |
|--------------------------------|--|
| Signal word                    | Danger   |
| Hazard statement(s)            |  |
| H302                           | Harmful if swallowed.  |
| H315                           | Causes skin irritation.  |
| H319                           | Causes serious eye irritation.   |
| H331                           | Toxic if inhaled.  |
| H336                           | May cause drowsiness or dizziness.   |
| H351                           | Suspected of causing cancer.   |
| H361d                          | Suspected of damaging the unborn child.  |
| H372                           | Causes damage to organs through prolonged or repeated exposure.  |
| Precautionary statement(s)     |  |
| P261                           | Avoid breathing vapours.   |
| P281                           | Use personal protective equipment as required.   |
| P305 + P351 + P338             | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P311                           | Call a POISON CENTER or doctor/ physician.   |
| Supplemental Hazard Statements | none   |

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

|                  |                |
|------------------|----------------|
| Molecular weight | : 119,38 g/mol |
| CAS-No.          | : 67-66-3      |
| EC-No.           | : 200-663-8    |
| Index-No.        | : 602-006-00-4 |

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

| Component         | Classification   | Concentration |
|-------------------|--|---------------|
| <b>Chloroform</b> |  |               |
| CAS-No.           | 67-66-3  | <= 100 %      |
| EC-No.            | 200-663-8  |               |
| Index-No.         | 602-006-00-4   |               |
|                   | Acute Tox. 4; Acute Tox. 3; Skin Irrit. 2; Eye Irrit. 2; Carc. 2; Repr. 2; STOT SE 3; STOT RE 1; H302, H315, H319, H331, H336, H351, H361d, H372 |               |

#### Hazardous ingredients according to Directive 1999/45/EC

| Component         | Classification                                       | Concentration |
|-------------------|--|---------------|
| <b>Chloroform</b> |  |               |
| CAS-No.           | 67-66-3  | <= 100 %      |
| EC-No.            | 200-663-8  |               |
| Index-No.         | 602-006-00-4   |               |
|                   | Xn, R20 - R22 - R48/20/22 - R36/38 - R40 - R63 - R67 |               |

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

#### 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**

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**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**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. Evacuate personnel to safe 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**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**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. 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.

Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

**7.3 Specific end use(s)**

Apart 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

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

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses 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.

##### Body Protection

Complete suit protecting against chemicals, 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

|   |   |
|---|---|
| a) Appearance                                   | Form: liquid, clear<br>Colour: colourless |
| b) Odour  | No data available                         |
| c) Odour Threshold                              | No data available                         |
| d) pH   | No data available                         |
| e) Melting point/freezing point                 | -62,99 °C                                 |
| f) Initial boiling point and boiling range      | 61,0 °C                                   |
| g) Flash point                                  | No data available                         |
| h) Evaporation rate                             | No data available                         |
| i) Flammability (solid, gas)                    | No data available                         |
| j) Upper/lower flammability or explosive limits | No data available                         |
| k) Vapour pressure                              | 213,3 hPa at 20,0 °C                      |
| l) Vapour density                               | No data available                         |
| m) Relative density                             | 1,48 g/cm <sup>3</sup>                    |

- |   |                   |
|---|-------------------|
| n) Water solubility                       | No data available |
| o) Partition coefficient: n-octanol/water | log Pow: 1,97     |
| 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

Surface tension 27,1 mN/m at 20,0 °C

## 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

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

Strong oxidizing agents, Strong bases, Magnesium, Sodium/sodium oxides, Lithium

### 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 - 908 mg/kg

Remarks: Behavioral:Change in motor activity (specific assay). Behavioral:Ataxia. Lungs, Thorax, or Respiration:Respiratory stimulation.

LOEC Inhalation - Rat - male - 6 h - 500 ppm

LD50 Dermal - Rabbit - > 20.000 mg/kg

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 24 h

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritating to eyes. - 24 h

#### Respiratory or skin sensitisation

Did not cause sensitisation on laboratory animals.

#### Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

#### Carcinogenicity

Carcinogenicity - Rat - Oral

Tumorigenic:Carcinogenic by RTECS criteria. Leukaemia

The National Cancer Institute (NCI) has found clear evidence for carcinogenicity. Limited evidence of a carcinogenic effect.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Chloroform)

### **Reproductive toxicity**

Suspected of damaging the unborn child. Suspected human reproductive toxicant

### **Specific target organ toxicity - single exposure**

May cause drowsiness or dizziness.

### **Specific target organ toxicity - repeated exposure**

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1. - Liver, Kidney

### **Aspiration hazard**

No data available

### **Additional Information**

RTECS: Not available

Vomiting, Gastrointestinal disturbance, Exposure to and/or consumption of alcohol may increase toxic effects., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## **SECTION 12: Ecological information**

### **12.1 Toxicity**

|   |   |
|---|---|
| Toxicity to fish                                    | LC50 - Leuciscus idus (Golden orfe) - 162 mg/l - 48 h               |
|   | LC100 - Leuciscus idus (Golden orfe) - 220 mg/l - 48 h              |
|   | LC50 - other fish - 97 mg/l - 96 h                                  |
|   | LC50 - Danio rerio (zebra fish) - 121 mg/l - 96 h                   |
|   | NOEC - Oryzias latipes - 122 mg/l - 10 d                            |
|   | NOEC - Oncorhynchus mykiss (rainbow trout) - 24 mg/l - 96 h         |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 79,00 mg/l - 24 h               |
|   | Immobilization EC50 - Daphnia magna (Water flea) - 51,6 mg/l - 48 h |
|   | NOEC - Daphnia magna (Water flea) - 120 mg/l - 11 d                 |
| Toxicity to algae                                   | EC50 - No information available. - 500,00 mg/l - 24 h               |

### **12.2 Persistence and degradability**

No data available

### **12.3 Bioaccumulative potential**

Bioaccumulation Lepomis macrochirus (Bluegill) - 14 d - 0,11 mg/l

Bioconcentration factor (BCF): 6

### **12.4 Mobility in soil**

No data available

### **12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### **12.6 Other adverse effects**

Harmful to aquatic life.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

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: 1888

IMDG: 1888

IATA: 1888

### 14.2 UN proper shipping name

ADR/RID: CHLOROFORM

IMDG: CHLOROFORM

IATA: Chloroform

### 14.3 Transport hazard class(es)

ADR/RID: 6.1

IMDG: 6.1

IATA: 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

## 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.

|            |   |
|------------|---|
| Acute Tox. | Acute toxicity  |
| Carc.      | Carcinogenicity   |
| Eye Irrit. | Eye irritation  |
| H302       | Harmful if swallowed.   |
| H315       | Causes skin irritation.   |
| H319       | Causes serious eye irritation.                                  |
| H331       | Toxic if inhaled.   |
| H336       | May cause drowsiness or dizziness.                              |
| H351       | Suspected of causing cancer.                                    |
| H361d      | Suspected of damaging the unborn child.                         |
| H372       | Causes damage to organs through prolonged or repeated exposure. |
| Repr.      | Reproductive toxicity   |

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

|     |                        |
|-----|------------------------|
| Xn  | Harmful                |
| R20 | Harmful by inhalation. |

|           |  |
|-----------|--|
| R22       | Harmful if swallowed.  |
| R36/38    | Irritating to eyes and skin.   |
| R40       | Limited evidence of a carcinogenic effect.   |
| R48/20/22 | Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. |
| R63       | Possible risk of harm to the unborn child.   |
| R67       | Vapours may cause drowsiness and dizziness.  |

**Further information**

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 knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Pallav Chemicals & Solvents Pvt. Ltd. and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.pallavchemicals.com](http://www.pallavchemicals.com) for additional terms and conditions of sale.