


# SAFETY DATA SHEET

## 4-CHLOROBENZALDEHYDE

### SECTION 1: Identification of the substance/mixture and of the company/undertaking Trade name:

<b>1.1 Product identifier:</b>	
<b>CAS Number:-</b>	104-88-1
<b>EC number:</b>	203-247-4
<b>1.2 SYNONYMS:</b>	<ul style="list-style-type: none"> <li>• Para-chlorobenzaldehyde</li> <li>• 4-chloro-benzaldehyde</li> <li>• p-Chlorobenzaldehyde</li> </ul>

### SECTION 2: Hazards identification:

<b>2.1 Classification of the substance or mixture:</b>	Classification according to Regulation (EC) No 1272/2008 The substance is classified according to the CLP regulation.
<b>2.2 Label elements:</b>	Labelling according to Regulation (EC) No 1272/2008 <ul style="list-style-type: none"> <li>• Acute toxicity,oral (Category 4)</li> <li>• Skin irritation, (Category 2)</li> <li>• Eye irritation, (Category 2)</li> <li>• Skin sensitization, (Category 1)</li> <li>• Long-term (chronic) aquatic hazard, (Category 2)</li> </ul>
<b>Hazard Pictograms:</b>	
<b>Signal Word:</b>	Danger
<b>Hazard statements:</b>	<b>H302:</b> Harmful if swallowed. <b>H315:</b> Causes skin irritation. <b>H317:</b> May cause an allergic skin reaction. <b>H319:</b> Causes serious eye irritation. <b>H411:</b> Toxic to aquatic life with long lasting effects.

<b>Precautionary Statements:</b>	<p><b>P261:</b> Avoid breathing dust.</p> <p><b>P273:</b> Avoid release to the environment.</p> <p><b>P280:</b> Wear protective gloves/ eye protection/ face protection.</p> <p><b>P301 + P312:</b> IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.</p> <p><b>P302 + P352:</b> IF ON SKIN: Wash with plenty of water.</p> <p><b>P305 + P351 + P338:</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p><b>P405:</b> Store locked up.</p> <p><b>P501:</b> Dispose of contents/ container to an approved waste disposal plant.</p>
<b>2.3 Other hazards:</b>	
<b>Inhalation:</b>	may cause respiratory irritation, coughing, and difficulty breathing, and prolonged exposure can lead to more severe effects on the respiratory system.
<b>Ingestion:</b>	can cause nausea, vomiting, abdominal pain, and may lead to more serious gastrointestinal and systemic effects if consumed in large amounts.
<b>Skin Contact:</b>	may cause irritation, redness, and dryness, and prolonged or repeated exposure could lead to more severe skin reactions..
<b>Eye contact:</b>	may cause irritation, redness, pain, and watering, and prolonged exposure could lead to more serious eye damage.
<b>Chronic Exposure:</b>	may lead to respiratory issues, skin sensitization, and potential damage to the liver or kidneys, depending on the level and duration of exposure.

<b>Aggravation of pre-existing conditions:</b>	Aggravation of pre-existing conditions such as asthma, respiratory disorders, or skin conditions (like eczema) may occur with exposure to 4-chlorobenzaldehyde, potentially worsening symptoms or triggering flare-ups
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### SECTION 3: Composition/information on ingredients

<b>3.1 Chemical characterisation:</b>	Substances
<b>CAS No:</b>	Description: 104-88-1 4-CHLOROBENZALDEHYDE
<b>Identification number(s):</b>	EC number: 203-247-4

### SECTION 4: First aid measures

<b>4.1 Description of first aid measures</b>	
<b>General information:</b>	
<b>After inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>After skin contact:</b>	Remove contaminated clothing immediately. Wash with soap and water. Consult a physician.
<b>After eye contact:</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if any. Consult a physician.
<b>After swallowing:</b>	Rinse mouth with water. Immediately after ingestion. If conscious, make victim drink two glasses at most immediately. Never give anything by mouth to an

	unconscious person. Do not induce vomiting. Consult a physician.
<b>4.2 Most important symptoms and effects, both acute and delayed:</b>	Acute exposure may cause respiratory irritation, skin and eye irritation, and gastrointestinal distress, while delayed effects could include chronic respiratory issues or skin sensitization with prolonged or repeated exposure.
<b>4.3 Indication of any immediate medical attention and special treatment needed:</b>	Treat symptomatically.

## SECTION 5: Firefighting measures

<b>5.1 Extinguishing media:</b>	Water spray, Carbon dioxide. Alcohol-resistant foam.
<b>5.2 Special hazards arising from the substance or mixture:</b>	Carbon oxides, hydrogen chloride gas.
<b>5.3 Advice for firefighters:</b>	Wear fully protective suit, safety glasses and respiratory device.
<b>5.4 further information:</b>	no data available

## SECTION 6: Accidental release measures

<b>6.1 Personal precautions, protective equipment and emergency procedures:</b>	Use personal protective equipment. 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. Avoid dust accumulation. Seek medical attention.
<b>6.2 Environmental precautions:</b>	Do not enter this chemical into drains.

<b>6.3 Methods and material for containment and cleaning up:</b>	Take up spill into absorbent material, e.g.: sand, earth, vermiculite, powdered limestone. Scoop absorbed substance into closing containers. Spill must not return in its original container. Clean the excess spill with water. Wash clothing and equipment after handling.
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## SECTION 7: Handling and storage

<b>7.1 Precautions for safe handling:</b>	For use in are with adequate ventilation. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material Do not use in confined spaces. Electrostatic discharge protection. Minimize dust generation and accumulation. Avoid ingestion and inhalation.
<b>7.2 Conditions for safe storage, including any incompatibilities:</b>	Store in original containers. Keep containers securely sealed Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Store in a dry and dark area. Do not handle in flammable atmospheres.
<b>Requirements to be met by storerooms and receptacles:</b>	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.
<b>7.3 Specific end uses:</b>	no data available

## SECTION 8: Exposure controls/personal protection

<b>8.1 Control parameters</b>	
<b>Additional information about design of technical facilities:</b>	A system of local and general exhaust is recommended.
<b>8.2 Exposure controls</b>	
<b>Appropriate engineering controls</b>	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
<b>Personal protective equipment:</b>	Dust respirator, protective masks, wearing anti chemical gloves, rubber gloves, etc.
<b>General protective and hygienic measures:</b>	Eyes, body and hand protection, maintain indoor air unobstructed. Wear protective equipment.
	<b>Respiratory protection:</b> Required.
<b>Protection of hands:</b>	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. Wash and dry hands.
	<b>Eye protection:</b> Required
<b>Protection of Body:</b>	Complete suit protecting against chemicals, Flame retardant antistatic protective clothing.

## SECTION 9: Physical and chemical properties

<b>9.1 Information on basic physical and chemical properties</b>	
<b>General Information</b>	
<b>Appearance: Form:</b>	Crystalline solid
<b>Colour:</b>	Pale yellow to off white
<b>Odour:</b>	Mild, aromatic like.
<b>pH-value:</b>	No data available

<b>Melting point/Melting range:</b>	47°C
<b>Boiling point/Boiling range:</b>	254°C
<b>Flammability (solid, gaseous):</b>	Flammable
<b>Ignition temperature:</b>	460°C
<b>Decomposition temperature:</b>	No data available
<b>Self-igniting:</b>	None
<b>Flash point:</b>	121°C
<b>Danger of explosion:</b>	None
<b>Explosion limits: Lower:</b>	No data available
<b>Explosion limits: Upper:</b>	No data available
<b>Vapour pressure:</b>	0.004 mmHg at 25°C
<b>Density at 20 °C:</b>	1.245 g/cm <sup>3</sup>
<b>Relative density:</b>	1.245
<b>Vapour density:</b>	No data available
<b>Evaporation rate:</b>	No data available
<b>Solubility in / Miscibility with- water at 20 °C:</b>	Slightly Soluble
<b>Partition coefficient:(n- octanol/water)</b>	3.16
<b>Viscosity:</b>	Not applicable

## SECTION 10: Stability and reactivity

<b>10.1 Reactivity</b>	Stable at room temperature
<b>10.2 Chemical stability</b>	This chemical is stable under storage conditions.
<b>10.3 Possibility of hazardous reactions</b>	Can cause violent reactions with strong oxidizers and reducing agents.
<b>10.4 Conditions to avoid</b>	High temperatures, Heat, flames.
<b>10.5 Incompatible materials</b>	Strong oxidizing agents, strong bases, strong reducing agents.
<b>10.6 Hazardous decomposition products</b>	Carbon monoxide, carbon dioxide, hydrogen chloride gas.

## SECTION 11: Toxicological information

<b>11.1 Information on toxicological effects</b>	
<b>Acute Toxicity:</b>	<b>LD50</b> (Oral, Rat): 840 mg/kg <b>LD50</b> (Dermal, Rabbit): 5.000 mg/kg <b>LC50</b> (Inhalation Rat): 0.2 mg/l (4 hr)
<b>Skin corrosion/Irritation:</b>	Causes serious skin irritation.
<b>Serious eye damage/irritation:</b>	Causes serious eye irritation.
<b>Respiratory damage/irritation:</b>	No data available
<b>Ingestion:</b>	No data available
<b>Germ cell mutagenicity:</b>	No data available
<b>Carcinogenicity:</b>	No data available
<b>Reproductive toxicity:</b>	No data available
<b>Specific target organ toxicity - single exposure:</b>	No data available
<b>Specific target organ toxicity - repeated exposure:</b>	No data available
<b>Aspiration hazard:</b>	No data available
<b>Signs and Symptoms of Exposure:</b>	Refer section 2.3
<b>11.2 Additional toxicological information</b>	
<b>Biodegradability:</b>	Readily Biodegradable

## SECTION 12: Ecological information

<b>12.1 Toxicity</b> <b>Aquatic toxicity:</b>	LC50(fish): 2.2 mg/l (96hr) EC50(daphnia): no data available ErC50(algae): 15.8 mg/l (72hr)
<b>12.2 Persistence and degradability:</b>	Readily Biodegradable
<b>12.3 Bioaccumulative potential:</b>	High bioaccumulative
<b>12.4 Mobility in soil:</b>	Low mobility
<b>12.5 Other adverse effects:</b>	No data available



## SECTION 13: Disposal considerations

13.1 Waste treatment methods	
<b>Uncleaned packaging Recommendation:</b>	dispose of in accordance with local hazardous waste regulations
<b>Recommended cleansing agents:</b>	Isopropyl alcohol, acetone, water and detergent, sand.

## SECTION 14: Transport information

<b>14.1 UN-Number · ADR, ADN, IMDG, IATA:</b>	3077
<b>14.2 UN proper shipping name · ADR, ADN, IMDG, IATA:</b>	4-CHLOROBENZALDEHYDE
<b>14.3 Transport hazard class(es) · ADR, ADN, IMDG, IATA :</b>	9
<b>14.4 Packing group · ADR, IMDG, IATA:</b>	3
<b>14.5 Environmental hazards:</b>	Yes, harmful to aquatic life
<b>14.6 Special precautions for user:</b>	Handle responsibly.

## SECTION 15: Regulatory information

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture Directive 2012/18/EU</b>	Directive 2012/18/EU, under that this substance is not classified in listed substance.
<b>Named dangerous substances:</b>	This substance is not listed in the annex 1 to the directive.
<b>15.2 Chemical safety assessment:</b>	Chemical assessment has not been carried out.

## SECTION 16: Other information

The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information.

However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make

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