

Safety Data Sheet per OSHA HazCom 2012

| Product identifier | | Reviewed on 06/01/2010 |
|---|---|------------------------|
| Product name: -2-Chloro-2-fluorophenol Bigs Ar, muther: Big | 1 Identification | |
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| General information Immediately remove any clothing soiled by the product. | 4 First-aid measures | |
| (Conta. on page 2) USA | | (Contra on page 2) |
| | | USA – |

Safety Data Sheet per OSHA HazCom 2012

Product name: 3-Chloro-2-fluorophenol

| Product name: 3-Chloro-2-fluorophenol | |
|---|---------------------------|
| After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice. After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor Most important symptoms and effects, both acute and delayed Causes severe skin burns. Causes sevien severe. Indication of any immediate medical attention and special treatment needed No further relevant information available. | (Contd. of page 1) |
| 5 Fire-fighting measures | |
| Extinguishing media Suitable extinguishing agents Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant for Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Hydrogen chloride (HCl) Hydrogen fluoride (HF) Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit. | am. |
| 6 Accidental release measures | |
| Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Use neutralizing agent. Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. Reference to other sections See Section 7 for information on safe handling See Section 8 for information on personal protection equipment. See Section 13 for disposal information. | |
| 7 Handling and storage | |
| Handling Precautions for safe handling Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No information known. Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from oxidizing agents. Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Store in cool, dry conditions in well sealed containers. | |
| 8 Exposure controls/personal protection | |
| Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. | |
| Control parameters Components with limit values that require monitoring at the workplace: Not required. Additional information: No data | |
| Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. Eye protection: Tightly sealed goggles Full face protection Body protection: Protective work clothing. | |
| 9 Physical and chemical properties | |
| Information on basic physical and chemical properties General Information | |
| Appearance: Form: Crystalline | |
| | (Contd. on page 3) USA |
| | |

Product name: 3-Chloro-2-fluorophenol

| Product name: 3-Chioro-2-fiuoroph | | |
|---|---|-------------------|
| | | (Contd. of page 2 |
| Color: | White Design Like | |
| Odor: Odor threshold: | Phenol-like Not determined. | |
| pH-value: | Not applicable. | |
| Change in condition | · · · · · · · · · · · · · · · · · · · | |
| Melting point/Melting range: | 34-38 °C (93-100 °F) 190 °C (374 °F) | |
| Boiling point/Boiling range: Sublimation temperature / start: | 190 °C (374 °F) Not determined | |
| Flash point: | Not applicable | |
| Flammability (solid. gaseous) | Not determined. | |
| Ignition temperature: | Not determined | |
| Decomposition temperature: Auto igniting: | Not determined Not determined. | |
| Danger of explosion: | Product does not present an explosion hazard. | |
| Explosion limits: | | |
| Lower: Upper: | Not determined Not determined | |
| Vapor pressure: | Not applicable. | |
| Density: | Not determined | |
| Relative density Vapor density | Not determined. Not applicable. | |
| Evaporation rate | Not applicable. | |
| Solubility in / Miscibility with Water: | Insoluble | |
| Partition coefficient (n-octanol/water) | | |
| Viscosity: | Not applicable. | |
| dynamic: kinematic: | Not applicable. | |
| Other information | No further relevant information available. | |
| 10 Stability and reactivity Reactivity No information known. Chemical stability Stable under recom Thermal decomposition / conditions Possibility of hazardous reactions N. Conditions to avoid No further relevar Incompatible materials: Oxidizing age Hazardous decomposition products: Carbon monoxide and carbon dioxide Hydrogen chloride (HCI) Hydrogen fluoride | to be avoided: Decomposition will not occur if used and stored according to specifications. o dangerous reactions known ti information available. nts | |
| 11 Toxicological information Information on toxicological effects | | |
| Acute toxicity: Harmful in contact with skin. | | |
| Harmful if swallowed. | | |
| Danger through skin absorption. | e effect on mouth and throat and to the danger of perforation of esophagus and stomach. | |
| LD/LC50 values that are relevant for | classification: No data | |
| Skin irritation or corrosion: Causes s Eye irritation or corrosion: Causes se | | |
| Sensitization: No sensitizing effects kr | iown. | |
| Germ cell mutagenicity: No effects kn | own. on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH. | |
| Reproductive toxicity: No effects know | i on carcinogenic properties of this material is available from the EPA, IARC, NTP, USHA of ACGIH. Mi. | |
| Specific target organ system toxicity | reneated exposure: No effects known | |
| Specific target organ system toxicity Aspiration hazard: No effects known. | - single exposure: No effects known. | |
| Subacute to chronic toxicity: No effect | cts known. | |
| Additional toxicological information: | To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. | |

12 Ecological information

2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information available. Ecotoxical effects: Remark: Toxic for aquatic organisms Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. Toxic for aquatic organisms Do not allow product to reach ground water, water course or sewage system. Danger to drinking water if even small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Toxic to aquatic life. May cause long lasting harmful effects to aquatic life. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. VPvB: Not applicable. Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal.

(Contd. on page 4) USA

Safety Data Sheet per OSHA HazCom 2012

Product name: 3-Chloro-2-fluorophenol

Incleaned nackagings

| Transport information | |
|--|---|
| JN-Number DOT, IMDG, IATA | UN3261 |
| JN proper shipping name DOT MDG | Corrosive solid, acidic, organic, n.o.s. (3-Chloro-2-fluorophenol) CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (3-Chloro-2-fluorophenol), MARINE POLLUTANT |
| ΑΤΑ | CORROSIVE SOLID, ACIDIC, ORGANIC, N.O.S. (3-Chloro-2-fluorophenol) |
| Transport hazard class(es) DOT | |
| Class | 8 Corrosive substances. |
| abel Jass abel MDG | 8 8 (C4) Corrosive substances 8 |
| | 8 Corrosive substances. |
| abel ATA | 8 |
| lass abel | 8 Corrosive substances. 8 |
| Packing group POT, IMDG, IATA | III |
| nvironmental hazards: Iarine pollutant (IMDG): | Environmentally hazardous substance, solid; Marine Pollutant Symbol (fish and tree) |
| pecial precautions for user MS Number: egregation groups | Warning: Corrosive substances F-A,S-B Acids |
| ransport in bulk according to Annex II of MARPOL7 | 73/78 and the IBC Code Not applicable. |
| ransport/Additional information: | |
| OOT Iarine Pollutant (DOT): Remarks: | No Special marking with the symbol (fish and tree). |
| JN "Model Regulation": | UN3261, Corrosive solid, acidic, organic, n.o.s. (3-Chloro-2-fluorophenol), 8, I |

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms



Signal word Danger

Hazard statements H302+H312 Harmful if swallowed or in contact with skin.

H302+H312 Harmitu ii swallowed of in context man same H314 Causes severe skin burns and eye damage. Precautionary statements P280 Wear protective gloves/protective clothing/eye protection/face protection. P273 Avoid release to the environment. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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/doctor/... National regulations

 P300
 Immediately call a POISON CENTER/doctor/...

 National regulations
 This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

 SARA Section 313 (specific toxic chemical listings) Substance is not listed.

 Prop 65 - Chemicals known to cause cancer Substance is not listed.

 Prop 65 - Developmental toxicity, Substance is not listed.

 Prop 65 - Developmental toxicity, substance is not listed.

 Information about limitation of use: For use only by technically qualified individuals.

 Other regulations, limitations and prohibitive regulations

 Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.

 The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.

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Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.
Department issuing SDS: Global Marketing Department
Date of preparation / last revision 11/23/2015 / Abbreviations and acronyms:
RID: Réglement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods kegulations by the "International Air Transport Association" (IATA)
ICAC: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transport Association
IATA: International Air Transport Association
IATA: International Abstracts Service (division of the American Chemical Society)

USA