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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1. Product identifiers

Product name: 8-Hydroxy quinoline, GR 99%+ Product Code: H 1707 CAS No : 148-24-3

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email info@ottokemi.com

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture H301: Toxic if swallowed. Acute toxicity, (Category 3) Serious eye damage, (Category H318: Causes serious eye damage. 1) Skin sensitization, (Category 1) H317: May cause an allergic skin reaction. Reproductive toxicity, (Category H360D: May damage the unborn child. 1B) H400: Very toxic to aquatic life. Short-term (acute) aquatic hazard, (Category 1) Long-term (chronic) aquatic H410: Very toxic to aquatic life with long hazard. (Category 1) lasting effects. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Danger Hazard Statements H301 Toxic if swallowed. May cause an allergic skin reaction. H317 H318 Causes serious eye damage. H360D May damage the unborn child. H410 Very toxic to aquatic life with long lasting effects. Precautionary Statements P202 Do not handle until all safety precautions have been read and understood. P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor. P302 + P352 IF ON SKIN: Wash with plenty of water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Supplemental Hazard none Statements Restricted to professional users. Reduced Labeling (<= 125 ml) Pictogram Signal Word Danger Hazard Statements

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| H301 | | Toxic if swallowed. | | | |
|---|---|--|--|--|--|
| H317 | May cause an allergic skin reaction. | | | | |
| H318 | Causes serious eye damage. | Causes serious eye damage. | | | |
| H360D | May damage the unborn child. | | | | |
| Precautionary Statements | , , | | | | |
| P202 | Do not handle until all safety precautions have been read and understood. | | | | |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ fac protection. | е | | | |
| P301 + P310 | | | | | |
| | IF SWALLOWED: Immediately call a POISON CENTER/ docto | IF ON SKIN: Wash with plenty of water. | | | |
| P302 + P352 | | | | | |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. | | | | |
| | Remove contact lenses, if present and easy to do. Continue | | | | |
| - | rinsing. | | | | |
| Supplemental Hazard | none | | | | |
| Statements | | | | | |
| 2.3 Other hazards | | | | | |
| This substance/mixture contains no compo | ents considered to be either persistent, | | | | |
| bioaccumulative and toxic (PBT), or very p | sistent and very bioaccumulative (vPvB) at | | | | |
| levels of 0.1% or higher. | | | | | |
| Ecological information: | | | | | |
| The substance/mixture does not contain co | ponents considered to have endocrine | | | | |
| | ticle 57(f) or Commission Delegated regulation | | | | |
| (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. | | | | | |
| | | | | | |
| Toxicological information: | | | | | |
| The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation | | | | | |
| | | | | | |
| (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. | | | | | |
| har to | | | | | |
| SECTION 3: Composition/information or | ingredients | | | | |
| 3.1 Substances | | | | | |
| Synonyms : Oxine | | | | | |
| 8-Quinolinol | | | | | |
| 8-Hydroxyguinoline | | | | | |
| 8-Oxychinolin | | | | | |
| Formula : C9H7NO | | | | | |
| Molecular weight : 145,16 g/mol | | | | | |
| CAS-No. : 148-24-3 | | | | | |
| EC-No. : 205-711-1 | | | | | |
| | | | | | |
| Component | Classification Concentration | | | | |
| 8-Hydroxyguinoline | | | | | |
| CAS-No. 148-24-3 | Acute Tox. 3; Eye Dam. 1; Skin Sens. 1; <= 100 % | | | | |
| EC-No. 205-711-1 | Repr. 1B; Aquatic Acute 1; Aquatic | | | | |
| | Chronic 1; H301, H318, H317, H360D, | | | | |
| | | | | | |

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

SECTION 4: First aid measures

4.1 Description of first-aid measures
General advice
Show this material safety data sheet to the doctor in attendance.
If inhaled
After inhalation: fresh air. Call in physician.
In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact
After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

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Aquatic Chronic: 1

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H400, H410 M-Factor - Aquatic Acute: 1 -

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Remove contact lenses. If swallowed If swallowed: give water to drink (two glasses at most). Seek medical advice immediately. In exceptional cases only, if medical care is not available within one hour, induce vomiting (only in persons who are wide awake and fully conscious), administer activated charcoal (20 - 40 g in a 10% slurry) and consult a doctor as quickly as possible. 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 Water Foam Carbon dioxide (CO2) Dry powder Unsuitable extinguishing media For this substance/mixture no limitations of extinguishing agents are given. 5.2 Special hazards arising from the substance or mixture Carbon oxides Nitrogen oxides (NOx) Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. 5.3 Advice for firefighters Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing. 5.4 Further information Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system. **SECTION 6: Accidental release measures** 6.1 Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8. 6.2 Environmental precautions Do not let product enter drains. 6.3 Methods and materials for containment and cleaning up Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts. 6.4 Reference to other sections For disposal see section 13. **SECTION 7: Handling and storage** 7.1 Precautions for safe handling Advice on safe handling Work under hood. Do not inhale substance/mixture. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons. Light sensitive. Storage class Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

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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 Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eye/face protection Use equipment for eve protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles Skin protection This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum laver thickness: 0.11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L **Body Protection** protective clothing Respiratory protection required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P3 The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. Control of environmental exposure Do not let product enter drains. **SECTION 9: Physical and chemical properties** 9.1 Information on basic physical and chemical properties a) Physical state powder b) Color white, light brown c) Odor No data available d) Melting Melting point/range: 72,5 - 74 °C point/freezing point e) Initial boiling point No data available and boiling range f) Flammability (solid, No data available gas)

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g) Upper/lower

flammability or explosive limits

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No data available

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h) Flash point i) Autoignition temperature j) Decomposition temperature k) pH I) Viscosity

m) Water solubility n) Partition coefficient: n-octanol/water o) Vapor pressure p) Density Relative density q) Relative vapor density r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information Surface tension Not applicable No data available

No data available

No data available Viscosity, kinematic: No data available Viscosity, dynamic: No data available 0,555 g/l at 20 °C log Pow: 1,85 at 25 °C - Bioaccumulation is not expected.

< 0,1 hPa at 25 °C 1,034 g/cm3 at 20 °C 1,034 at 20 °C

No data available

No data available none

71,2 mN/m at 1g/l at 20 °C - OECD Test Guideline 115

SECTION 10: Stability and reactivity

10.1 Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed. 10.2 Chemical stability The product is chemically stable under standard ambient conditions (room temperature) . 10.3 Possibility of hazardous reactions Violent reactions possible with: Strong oxidizing agents Strong acids 10.4 Conditions to avoid no information available 10.5 Incompatible materials No data available 10.6 Hazardous decomposition products In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available. Special Remarks on Othronic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans: Not available.

SECTION 12: Ecological information

12.1 Toxicity Toxicity to fish LC50 - Fish - 18 mg/l - 96 h Remarks: (ECOTOX Database) Toxicity to daphnia and other aquatic static test EC50 - Daphnia magna (Water flea) - 2,4 mg/l - 48 h

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(OECD Test Guideline 202)

| (0202 1000 001001 | 10 202) | | |
|--|---|--|------------|
| 0,225 mg/l - 72 h (OECD Test Guideli Toxicity to bacteria s (OECD Test Guideli 12.2 Persistence an Biodegradability aer Result: 6,6 % - Not 1 (OECD Test Guideli 12.3 Bioaccumulativ No data available 12.4 Mobility in soil No data available 12.5 Results of PBT This substance/mixt bioaccumulative and levels of 0.1% or hig 12.6 Endocrine dism Product: Assessment | static test EC50 - activated sludge - 2 ine 301D) ad degradability robic - Exposure time 28 d rapidly biodegradable ine 301D) ve potential and vPvB assessment ture contains no components consider d toxic (PBT), or very persistent and very gher. upting properties : The substance/mixture does not cor considered to have endocrine disrupt according to REACH Article 57(f) or 0 Delegated regulation (EU) 2017/2100 Regulation (EU) 2018/605 at levels of effects | mg/l - 28 d red to be either persistent, ery bioaccumulative (vPvB) at ntain components ing properties Commission | |
| SECTION 14: Trans 14.1 UN number ADR/RID: 2811 14.2 UN proper ship | | IMDG: 2811 | IATA: 2811 |
| ADR/RID IMDG IATA 14.3 Transport haza | : TOXIC SOLID, ORGANIC, N.O.S. (: TOXIC SOLID, ORGANIC, N.O.S. (: Toxic solid, organic, n.o.s. (8-Hydro) | 8-Hydroxyquinoline) xyquinoline) | |
| ADR/RID: 6.1 14.4 Packaging grou | | IMDG: 6.1 | IATA: 6.1 |
| ADR/RID: III | Kall | IMDG: III | IATA: III |
| 14.5 Environmental ADR/RID: yes | hazards | IMDG Marine pollutant: yes | IATA: no |
| 14.6 Special precau | | | |
| Tunnel restriction co Further information | ode : (E) : No data available | | |
| 15.1 Safety, health a substance or mixtur This material safety 1907/2006. | Ilatory information and environmental regulations/legislat e data sheet complies with the requiren or restrictions on use | | |

REACH - Restrictions on the manufacture,

placing on the market and use of certain

dangerous substances, mixtures and articles

(Annex XVII)

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: 8-Hydroxyquinoline National legislation Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. H2 ACUTE TOXIC E1 ENVIRONMENTAL HAZARDS Other regulations Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable. Take note of Dir 94/33/EC on the protection of young people at work. 15.2 Chemical Safety Assessment For this product a chemical safety assessment was not carried out

SECTION 16: Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.



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