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MATERIAL SAFETY DATA SHEET

MSDS No: MSDS/CLO/FG-003

PRODUCT : Clodinafop-propargyl Technical

Section 1: Product Identification & Company

Common Name : Clodinafop-propargyl
Synonyms : Clodinafop-propargyl
Manufacturer / Supplier : Bharat Rasayan Limited
1501, Vikram Tower, Rajendra Place,
New Delhi – 110008, INDIA
Emergency Phones : +91-11-43661120,1104 Fax 43661100

CAS-No.105512-06-09

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

Identified uses **Herbicide use**

Section 2

HAZARDS IDENTIFICATION Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Acute toxicity, Oral (Category 4)

Specific target organ toxicity - repeated exposure (Category 2)

Skin sensitization (Category 1)

Acute aquatic toxicity (Category 1) chronic aquatic toxicity (Category 1)

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Harmful by inhalation and if swallowed. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]



Signal word Warning

Hazard statement(s) H302 Harmful if swallowed

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s) P273 Avoid release to the environment.

P280 Wear protective gloves.

P501 Dispose of contents/ container to an approved waste disposal plant.

Supplemental Hazard Non

Statements

According to European Directive 67/548/EEC as amended.



R-phrase(s) R20/22 Harmful by inhalation and if swallowed.

R43 May cause sensitization by skin contact.

R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s) S36/37

S60 Wear suitable protective clothing and gloves.

S61 This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special instructions/ Safety data sheets

Caution - substance not yet tested completely.

Other hazards - none

3.0 COMPOSITION/INFORMATION ON INGREDIENTS

Substances

Formula C₁₇H₁₃ClFNO₄

Molecular Weight 349,74 g/mol

Component Clodinafop-propargyl

Concentration 95% MIN

CAS-No. 105512-06-9

4.0 FIRST AID MEASURES

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. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed

Indication of any immediate medical attention and special treatment needed

no data available

5.0 FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

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

Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride gas, Hydrogen fluoride

Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

no data available

6.0 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

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.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

For disposal see section 13.

7.0 HANDLING AND STORAGE

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.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Specific end uses

no data available

8.0 EXPOSURE CONTROLS/PERSONAL PROTECTION Control parameters

Components with workplace control parameters

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges.

Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

9.0 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

a) Appearance Form: crystalline Colour: beige

- b) Odour no data available
- c) Odour Threshold no data available
- d) pH 4,1 at 25 °C
- e) Melting point/freezing point 48,2 - 57,1 °C
- f) Initial boiling point and boiling range no data available
- 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 no data available
- l) Vapour density no data available
- m) Relative density 1,360 g/cm³ at 20 °C
- n) Water solubility no data available
- o) Partition coefficient: n- octanol/water no data available
- p) Autoignition temperature no data available
- q) Decomposition temperature no data available
- r) Viscosity no data available
- s) Explosive properties t) Oxidizing properties no data available

9.2 Other safety information

no data available

10. STABILITY AND REACTIVITY Reactivity

10.1 no data available

10.2 Chemical stability

no data available

Possibility of hazardous reactions

no data available

Conditions to avoid

no data available

Incompatible materials

no data available

Hazardous decomposition products

Other decomposition products - no data available

11.0 TOXICOLOGICAL INFORMATION Information on toxicological effects Acute toxicity

LD50 Oral - rat - male – 1.392 mg/kg

LC50 Inhalation - rat - 4 h - 2.325 mg/m³

LD50 Dermal - rabbit - > 2.000 mg/kg

Skin corrosion/irritation

Skin - rabbit - No skin irritation

Serious eye damage/eye irritation

Eyes - rabbit - No eye irritation

Respiratory or skin sensitization

May cause allergic skin reaction.

Germ cell mutagenicity

no data available

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

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effect

Inhalation Harmful if inhaled. May cause respiratory tract irritation

Ingestion Harmful if swallowed.

Skin May be harmful if absorbed through skin. May cause skin irritation

Eyes May cause eye irritation

Additional Information

RTECS: Not available

12.0 ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish LC50 - Lepomis macrochirus (Bluegill) - 0,12 - 0,26 mg/l - 96,0 h

Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - > 2 mg/l - 48 h

Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - 3,9 - 8,4 mg/l - 72 h

Persistence and degradability

No data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Results of PBT and vPvB assessment

no data available

Other adverse effects

Very toxic to aquatic life

13.0 DISPOSAL CONSIDERATIONS Waste**treatment methods Product**

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product

14.0 TRANSPORT INFORMATION

UN number

ADR/RID:3077

IMDG:3077

IATA:3077

UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Clodinafop-propargyl)

IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Clodinafop-propargyl)

IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Clodinafop-propargyl)

Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA:9

Packaging group

ADR/RID: III IMDG: III IATA: III

Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

15.0 REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006

Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

Chemical Safety Assessment

no data available

16.0 OTHER INFORMATION

The information provided in this MSDS is of general nature not specific for a particular purpose or situation, and believed to be correct and faithful. **Bharat Rasayan Limited** does not make any warranty or guarantee of any kind regarding fitness or completeness of information. **Bharat Rasayan Limited** disclaims any liability to the result(s) obtained or arising out of any use of the product or reliance on data/information contained in this MSDS.

Prepared by: Bharat Rasayan Limited: EHS Department

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