

MATERIAL SAFETY DATA SHEET OF

2,4-D-ETHYLHEXYL + FLORASULAM 459 G/L SE

1. IDENTIFICATION OF THE CHEMICAL PRODUCT AND COMPANY

Supplier: Shanghai Bosman Industrial Co., Ltd

Street address: No. 1611, North Sichuan Road, Hongkou, Shanghai P.R. China

Tel: + 86 21 63065878

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Product name: 2,4-D-Ethylhexyl + Florasulam 459g/l SE

2. COMPOSITION/INFORMATION ON INGREDIENTS

Formulation Type: Suspo-emulsion (SE)

Composition:

INGREDIENT	CAS NO	PROPORTION
Florasulam	145701 - 23 - 1	6 g/l
2,4-D-Ethylhexyl	1928-43-4	453 g/l
other	Not available	Balance

Other ingredients determined not to be hazardous

3. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008:

Acute toxicity - Category 4 - Oral - H302

Skin sensitisation - Category 1 - H317

Acute aquatic toxicity - Category 1 - H400

Chronic aquatic toxicity - Category 1 - H410

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

Label elements

Labelling according to Regulation (EC) No 1272/2008:

Hazard pictograms



Signal word: WARNING

Hazard statements

H302 Harmful if swallowed.

H317 May cause an allergic skin reaction.

H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

P280 Wear protective gloves/ protective clothing.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P501 Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for empty clean containers which can be disposed of as nonhazardous waste.

4. FIRST AID MEASURES

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

Skin contact: Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

Eye contact: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

Ingestion: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special

treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media: To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

Unsuitable extinguishing media: No data available

Special hazards arising from the substance or mixture

Hazardous combustion products: Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Hydrogen chloride. Carbon monoxide. Carbon dioxide. Unusual Fire and Explosion Hazards: This material will not burn until the water has evaporated. Residue can burn.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENT RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

Methods and materials for containment and cleaning up:

Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

Reference to other sections:

References to other sections, if applicable, have been provided in the previous sub-sections.

7. HANDLING AND STORAGE

Precautions for safe handling:

Keep out of reach of children. Avoid prolonged or repeated contact with skin. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for safe storage, including any incompatibilities:

Store in a dry place. Store in original container. Keep container tightly closed. Do not store near food, foodstuffs, drugs or potable water supplies.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

PERSONAL PROTECTIVE EQUIPMENT:

If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protective equipment including approved respiratory protection.

Respirator: It is usually safe to use the product without a mask or respirator. If the product is used in dusty or confined conditions, a mask or respirator suitable for protection from dusts and mists of pesticides

is adequate. Limitations of respirator use specified by the approving agency and the manufacturer must be observed.

Clothing: Employee must wear appropriate protective (impervious) clothing and equipment to prevent repeated or prolonged skin contact with this substance.

Gloves: Employee must wear appropriate synthetic protective gloves to prevent contact with this substance.

Eye protection: Wear safety goggles or face shield.

Emergency eye wash: Where there is any possibility that an employee's eyes may be exposed to this substance, the employer should provide an eye wash fountain or appropriate alternative within the immediate work area for emergency use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Off-white liquid

Odour: NA

Density: NA

Water solubility: Disperse in water

pH: NA

Flash point: NA

Oxidizing properties No significant increase ($>5^{\circ}\text{C}$) in temperature.

10. STABILITY AND REACTIVITY

Reactivity: No dangerous reaction known under conditions of normal use.

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Some components of this product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials. Toxic gases are released during decomposition.

11. TOXICOLOGICAL INFORMATION

For Florasulam

Acute toxicity

Acute oral toxicity LD50 for rats >6000 mg/kg.

Skin and eye Acute percutaneous LD50 for rabbits >2000 mg/kg.

Not a skin or eye irritant.

Not a skin sensitiser.

Inhalation LC50 (4 h) >5 mg/l.

Chronic toxicity

NOEL (90 d) for rats and mice 100 mg/kg b.w. daily; (1 y) for dogs 5 mg/kg b.w. daily; (2 y) for rats 10 mg/kg b.w. daily, for mice 50 mg/kg b.w. daily.

Other

Negative in genotoxicity and Ames tests.

For 2,4-D-2-ethylhexyl

Acute toxicity

Acute oral toxicity LD50 for rats 896 mg/kg.

Skin and eye Dermal LD50 for rabbits >2000 mg/kg.

Slight eye irritant; not a skin irritant.

A skin sensitiser (guinea pigs). Inhalation LC50 (4 h) for rats >5.4 mg/l air.

Chronic toxicity

NOAEL (developmental toxicity) for rats 10 mg/kg daily (cited in EPA EFED Risk Assessment for 2,4-D RED).

12. ECOLOGICAL INFORMATION

For Florasulam

Birds Acute oral LD50 for quail 1046 mg/kg. Dietary LC50 for quail and mallard ducks >5000 mg/kg diet.

Fish LC50 (96 h) for bluegill sunfish >98, rainbow trout >96 mg/l.

Daphnia LC50 (48 h) >292 mg/l.

Algae ErC50 (72 h) for algae 8.94 µg/l.

Other aquatic spp. EC50 (14 d) for Lemna gibba 1.18 µg/l. Bees LD50 (48 h, oral and contact) >100 µg/bee. Worms LC50 (14 d) for earthworms >1320 mg/kg.

For 2,4-D-2-ethylhexyl

Birds Acute oral LD50 for mallard ducks 663 mg/kg. Dietary LC50 (5 d) for bobwhite quail and mallard ducks >5620 ppm.

Fish LC50 for fathead minnows, bluegill sunfish and rainbow trout greater than solubility in water.

Daphnia EC50 (48 h) 5.2 mg/l.

Algae EC50 for *Skeletonema costatum* 0.23, *Navicula pelliculosa* 4.1, *Selenastrum capricornutum* and *Anabaena flos-aquae* >30 mg/l.

Other aquatic spp. EC50 (14 d) for *Lemna gibba* 0.5 mg/l. Bees LD50 (contact) >100 µg/bee; (oral) >100 µg/bee.

13. DISPOSAL CONSIDERATION

Pesticide disposal:

Open dumping or burning of this pesticide is prohibited. Waste resulting from the use of this product that cannot be reused or reprocessed should be disposed of in a landfill approved for pesticide disposal. Do not contaminate rivers, dams or any other water sources with the product or used containers. Never pour untreated waste or surplus products into public sewers or where there is any danger of run-off or seepage into water systems. Comply with local legislation applying to waste disposal.

Package product wastes:

Emptied containers retain vapour and product residues. Observe all labelled safeguards. TRIPLE RINSE empty containers in the following manner: Invert the empty container over the spray or mixing tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter, rinse the container three times with a volume of water equal to a minimum of 10 % of that of the container. Add the rinsings to the contents of the spray tank before destroying the container.

Destroy the emptied containers by perforation and flattening. Bury in an approved dump site. Do not re-use the empty container for any other purpose. Comply with any local legislation applying to disposal.

14. TRANSPORT INFORMATION

UN NUMBER: 3082

Class: 9

Packing group: III

Shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(2,4-D-ethylhexyl, Florasulam)

15. REGULATORY INFORMATION

Follow all local, international laws, regulations and acts.

16. OTHER INFORMATION

This MSDS summarizes our best knowledge of the health and safety hazard information of the product and how to safely handle and use the product in the workplace. Each user should read this MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made the user should contact the company.

-- END OF MSDS --