



SHREEJI PESTICIDES PVT. LTD
(A SUBSIDIARY OF WILLOWOOD CHEMICALS PVT. LTD)

Material safety data sheet METSULFURON-METHYL 20 %WG

1. IDENTIFICATION OF COMPANY & PRODUCT

Product Name : METSULFURON-METHYL 20 %WG
Chemical Name : Methyl 2-[3-(4-methoxy-6-methyl-1, 3, 5-triazin-2-yl) ureidosulphonyl] benzoate.
Uses : Herbicide

Molecular Formula : C₁₄H₁₅N₅O₆S
Manufacturer : SHREEJI PESTICIDES PVT LTD.
Address : Plot No. 69/P, Village - Manjusar, Tal. Savli, Dist. Vadodara - 391775
Gujarat, India :
Tele Fax Number 91 2667 264701

2. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration
Metsulfuron methyl	74223-64-6	20 %
Fumed silica, crystalline-free	112945-52-5	3 %
Other Ingredients	---	77 %

3. HEALTH HAZARDS IDENTIFICATION

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

Safety data Use appropriate container to avoid environmental contamination. This material and its container must be disposed of as hazardous waste.

4. FIRST AID MEASURES

Signs and symptoms of exposure

Primarily irritation. Poisoning is unlikely, unless large quantities are ingested. Generally, sulphonylurea herbicides cause lethargy, Confusion, dizziness, seizures and coma on ingestion.

Emergency and first aid procedures

Inhalation If experiencing any discomfort, immediately remove the exposed Person from exposure. Get medical attention immediately if Symptoms develop.

Ingestion Inducing vomiting is not recommended. Dilute by drinking milk. If Not available drink water. If vomiting occurs, drink fluids again. Call a doctor or get medical attention.



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Eye contact immediately flush eyes with plenty of water or eyewash solution, occasionally opening eyelids, until no evidence of chemical Remains. Remove contact lenses after a few minutes and flush Again. See physician if irritation persists.

Skin contact immediately flush skin with plenty of water while removing contaminated clothing and shoes. Wash with water and soap. See Physician if irritation persists.

Note to physician there is no specific antidote against this substance. Treatment is Supportive and symptomatic. Administration of activated charcoal can be considered. Possible mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

Extinguishing media and Procedure Dry chemical or carbon dioxide for small fires, water spray or foam For large fires. Use water spray to keep fire-exposed containers cool. Approach Fire from upwind to avoid hazardous vapors and toxic Decomposition products. Fight fire from protected location or Maximum possible distance. Avoid heavy hose streams. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

Hazardous decomposition or byproducts in a fire the essential breakdown products are nitrogen oxides, Sulphur Dioxide, carbon monoxide and carbon dioxide.

Unusual fire and explosion Hazards —

6. ACCIDENTAL RELEASE MEASURES

Personal protection: Observe all protection and safety precautions when cleaning up Spills. Depending on the magnitude of the spill this may mean Wearing safety glasses, protective gloves, chemical resistant Clothing and boots. See 8, Personal protection.

Steps to be taken in case of spill:

It is recommended to have a predetermined plan for the handling of Spills. Stop the source of the spill immediately if safe to do so. Contain the Spill to prevent any further contamination of surface, soil or water. Reduce and avoid formation of airborne dust as much as possible, if Appropriate by moistening. Remove sources of ignition.

Spills on the floor or other impervious surface should be swept up immediately and collected in suitable containers (not metal). Rinse area with strong industrial detergent and much water. Absorb wash liquid onto a suitable absorbent such as universal binder, Fuller's earth, bentonite or other absorbent clay and collect contaminated absorbent in similar containers. Washings must be prevented from entering surface water drains.



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Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be Collected and removed for treatment or disposal. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

The used containers should be properly closed and labelled. Refer To section 13 for disposal.

7. HANDLING AND STORAGE

Precautions to be taken in handling in an industrial environment it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. Otherwise adequate ventilation or local exhaust ventilation is required. For personal protection in this situation, see section 8.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8. The precautions of section 8 are primarily meant for handling of the undiluted product and for preparing the spray solution, but can be recommended for spraying as well.

Precautions to be taken in storing the product is stable at normal storage temperatures. Store in closed, labelled containers (not metal). Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Specific use: The product is a registered pesticide and may only be used for the applications it is registered for in accordance with a label approved by the regulatory authorities.

Fire and explosion precautions: Like most organic powders, the substance can form explosive mixtures with air. Avoid dust formation and take precautionary measures against static discharge. Keep away from sources of Ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limit values: Not established for Metsulfuron-methyl. An exposure limit of 10 Mg/m³ (8-hr TWA) is recommended by the manufacturer.

Personal protection: When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems nonhazardous before opening.



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Respiratory protection: The product is not likely to present an airborne exposure concern during normal handling due to low vapour pressure, but in the event of discharge of the material during manufacturing or handling which produces a heavy dust or mist, workers should put on officially approved respiratory protection equipment with a universal filter type including particle filter.

Protective gloves: Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for Metsulfuron-methyl are unknown, but it is expected that they will give adequate protection based on the low dermal toxicity of the substance. Generally, however, the use of protective gloves will give only partial protection against dermal exposure. Small tears in the gloves and cross-contamination can easily occur. It is recommended to shift the gloves frequently and to limit the work to be done manually.

Eye protection: Wear safety glasses. It is recommended to have an emergency eye wash fountain immediately available in the work area when there is a potential for eye contact.

Other protection: Wear coveralls or long sleeved shirt and long pants. Wear shoes plus socks.

Work/hygienic practices: Keep all unprotected persons and children away from working area. Avoid contact with eyes, skin or clothing. Avoid breathing vapour or spray mist. Before removing gloves, wash them with water and soap. Wash thoroughly with water and soap after handling. Remove contaminated clothing immediately and wash before reuse. After work, take off all work clothes and shoes. Shower thoroughly, using water and soap. Wear only clean clothes when leaving job. Do not wear contaminated clothing. Wash protective clothing and protective equipment with water and soap after each use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state.....	White to off white powder
Colour.....	Light brown
Odour.....	Faint, ester-like
Solubility in water.....	The product can be dispersed in water.
pH	3 - 7 (typically 4) for a 1% dispersion in water
Flash point.....	Not flammable
Auto ignition temperature.....	Not available
Explosivity.....	Not explosive
Oxidizing properties.....	Not oxidizing



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10. STABILITY AND REACTIVITY

Thermal decomposition: Stable at ambient temperatures. Excessive dust formation may pose a dust explosion hazard.

Hazardous decomposition or by products: See 5.2.

Materials to avoid: Strong oxidizing compounds and strong alkalis. An acid-base neutralization reaction can be hazardous because of heat release.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

The product is not considered as harmful. However, it should always be treated with the usual care of handling chemicals. The acute toxicity is, estimated by comparison to similar products:

Route(s) of entry	- Ingestion	LD50, oral, rat: > 5000 mg/kg
	- Skin	LD50, dermal, rat: > 2000 mg/kg
	- Inhalation	LC50, inhalation, rat: > 5 mg/l/4 h (signs of toxicity may occur at This concentration)

Irritancy..... Mildly to moderately irritating to skin and eyes.

Allergic sensitisation..... Not causing hypersensitivity in guinea pigs.

Carcinogenicity..... No indications of carcinogenic effects are found.

Reproductive effects..... No effects on Reproductivity are found for Metsulfuron-methyl at maternal non-toxic doses.

Teratogenicity..... No indications of teratogenic effects of Metsulfuron-methyl are Found.

Mutagenicity..... Metsulfuron-methyl is not mutagenic.

12. ECOLOGICAL INFORMATION

Ecotoxicity: Metsulfuron-methyl is highly toxic to green algae and aquatic plants, but it is considered as non-toxic to fish, aquatic invertebrates, soil micro- and macroorganisms, birds, mammals and insects.

The measured ecotoxicity of the active ingredient metsulfuron-methyl is:

- Fish	Rainbow trout (<i>Salmo gairdneri</i>).....	96-h LC50: > 150 mg/l 21-day NOEC: 68 mg/l
- Invertebrates	Daphnids (<i>Daphnia magna</i>).....	48-h LC50: > 150 mg/l 21-day NOEC: 150 mg/l



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- Algae	Green algae (<i>Selenastrum capricornutum</i>) ...	72-h IC50: 0.045 mg/l
- Aquatic plants	Duckweed (<i>Lemna gibba</i>).....	EC50: 0.36 µg/l
- Earthworms	Eisina foetida foetida.....	LC50: > 1000 mg/kg dry soil
- Birds	Mallard duck.....	LD50: > 2510 mg/kg
- Insects	Bees.....	LD50, topical: > 25 µg/bee LD50, oral: > 44.3 µg/bee

Mobility: Under normal conditions metsulfuron-methyl is mobile in soil. It has a potential for leaching to groundwater.

Persistence and degradability: Metsulfuron-methyl does not fulfil the criteria for being readily biodegradable. It is moderately persistent in the environment. Degradation half-lives vary with circumstances, from a few weeks to a few months in aerobic soil and water. Degradation occurs both by chemical hydrolysis and by microbiological degradation.

Bio accumulative potential: Due to its high solubility in water, Metsulfuron-methyl does not bio accumulate. Bio concentration factor is < 1.

13. DISPOSAL CONSIDERATIONS

Waste disposal method: Material that cannot be reused or chemically reprocessed can be disposed of by controlled incineration with flue gas scrubbing or removal to a licensed chemical destruction plant. Do not contaminate water, foodstuffs, feed or seed by storage or disposal.

Packaging/container disposal: Triple rinse (or equivalent) and offer for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill.

Disposal of waste and packaging must always be in accordance with all applicable local regulations.

14. TRANSPORT INFORMATION

ADR/RID CLASSIFICATION

Proper shipping name.....	Environmentally Hazardous Substance, Solid, N.O.S. (Metsulfuron-methyl)
Class	9
UN no.	3077
Packaging group.....	III
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UN no. 3077
Packaging group..... III
Marine pollutant..... Marine pollutant

IATA/ICAO CLASSIFICATION

Proper shipping name..... Environmentally Hazardous Substance, Solid, N.O.S.
(Metsulfuron-methyl)
Class 9
UN no. 3077
Packaging group..... III

15. REGULATORY INFORMATION

(According to 1999/45/EC as amended):

Hazard symbol.....
Contains..... Metsulfuron-methyl
R-phrases..... R51/53: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-phrases..... S60-61: This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Refer to special Instructions/safety data sheets.
Other mentions..... To avoid risks to man and the environment, comply with the Instructions of use.

16. OTHER INFORMATION

This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product may vary and situations unforeseen by Crop Life Science Ltd. may exist. The user of the material has to check the validity of the information under local circumstances.