

TECHNICAL DATA SHEET

empratour sulphur 80% wp
(SULPHUR)
FUNGICIDE

1- INTRODUCTION

Common name : Sulphur
Use : Fungicide
Company name : Raja
Situation : (HRY)
Nationality : India
Address : No. 169, sector 25 dabad-121004
Remarks : Tell +91-2676235232-235245

2- Applicant

Name : ICM
Address : 34, Mahmoud Khairy st, Nasr City
Nationality : Egypt
Telephone : +20224054744
Authority : see attachment – 1
Identify cert : see attachment – 2
Remarks : Fax: +20224054740

3-CHEMISTRY OF THE PRODUCT

Common name	: sulphur
Code Number	: CAS: 7704-34-9
Trade name	: empratour sulpher
Initial regist	: NA
Chemical class	: element – sulphur
Local synonyms	: sulphur
Chemical Name	: sulphur (IUPAC)
Structural formula	: S _x

4- PHYSICAL AND CHEMICAL PROPERTIES

Molecular weight	: 32.1
Formula	: Sx (rhombohedral or monoclinic)
Physical form	: wettable granular
Technical purity	: 90%-100%
Vapour pressure	: 0 mmHG at 280°F
Colour and odor	: odorless & yellow colored powder it not 100% pure
Melting point	: 230-246°F (110-119°C)
Boiling point	: 832 °F (444 °C)
Density	: 2.07 g/Cm ³
Octanol Number	:
Bulk Density	: Lumps 75-115lb / ft powder 33- 80 lbs. /ft
Solubility	:
	<ul style="list-style-type: none">• in water : insoluble• in organic solvents: Crystalline forms are soluble in carbon disulfide, but amorphous forms are not. Very slight soluble in ether and petroleum ether, more readily soluble in hot benzene and acetone.

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5- TYPE OF FORMULATIONS AND SPECIFICATION

Contents	Type of formulation	
	Micronized wettable granular (Wp)	
Active ingredient	Sulphur	80%
Inert ingredient	Wetting agent & dispersing & suspensionable	20%
Total		100%

6- SPECIFICATIONS OF FORMULATIONS

Appearance	: yellow colored lumps
Alkalinity or acidity	:
Suspensibility	: 80%
Emulsification proprieties	: N.A
Density	: 2.07 g/cm ³
Bulk density	: lumps 75-115lbs/ft powder 33-80lbs. /ft
Viscosity	: N.A
Flash point	: 40 °F (207 °C)
Wettability	: standardized
Freeze point& melting point:	230-246 °F (110-119 °C)
Particle size	: 0.01% retention on 75 um sieves.

Compatibility: tank mixes with most insecticides, miticides, fungicides, herbicides, except oil sprays. Mixes with nitrogen solutions, suspension fertilizers and clear liquid fertilizers.

Heat stability: No significant change in physical and chemical properties of sulphur 80%WP 55± 2C for period of 14 days

Explosive limits of dust in air: LEL 35 g/m UEL 1400g/m

Auto-ignition temperature: 478-511 °F (248-266 °C)

Extinguishing media: water fog, spray or regular Foam. Don't use

Storage stability: it is stable for two years minimum in unopened original manufactures pack under the normal conditions of storage.

Mixing properties: compatible with most insecticide formulations

Method of analysis: product analysis by conversion to sodium thiosulfate which is determined by titration.

(CIPAC), handbook, 1992,1, FAO plant prof, Bull, 1961. 9(5), 80.

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7- BIOLOGICAL SPECTRUM

PESTICIDAL EFFICACY (LIST OF PESTS)

Sulphur is a protectant Fungicide so best results will be applying before diseases becomes established (variety of plant diseases brown rot, powdery mildew of peaches, apples peanut and mango) the eradicate fungicide will be suitable by treatment.

MODE OF ACTION:

Non- systemic protective fungicide with contact and vapour action secondary acaricidal activity.

USES AND RECOMMENDATION:

Target pest	Crop	Application rate / Fadden	Application method
Powdery mildew	Grape	250g/100Lwater	Spray

PHOTOTOXICITY:

Photo toxicity. To some extent to a number of crops, including cucurbits apricots raspberries, and certain another” sulphur SHY’ varieties. Sulphur when applied of the recommended rates it is well tolerated by the crops.

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8- TOXICOLOGICAL INFORMATION

CHRONIC TOXICITY

Carcinogenicity effect (WHO-IARC)

The chronic exposure to element sulphur at low levels is generally recognized a safe. Epidemiological studies show that mine workers exposed to sulphur dust, sulphur dioxide, and solid through their lives often had eye and respiratory disturbances, chronic bronchitis and sinus effects.

However, no know risks of oncogenic teratogenic or reproductive effects are associated with the use of sulphur. Also, sulphur has been shown to be non-mutagenic in microorganisms.

Delayed Neurotoxicity effect (WHO): NA

Hormonal disruption (WHO): NA

Teratogenicity& reproduction effect (WHO): NA

Mutagenicity (WHO):

According to the results of the study, the test substance BAS 175 O1F is not mutagenic in the Ames test under the experimental conditions.

Acceptable daily intake (ADI):

People may be exposed to small amounts of sulphur through the food supply. The sulphur does not pose any relevant toxic effects; no dietary risk assessment was performed. It's recognized as safe matter. No tolerances need be established for residues of sulphur in or no food commodities.

Pre-harvest interval (PHI): zero days
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9- ENVIRONMENTAL CHEMISTRY

Fate in water:

In the 1982 registration standard, all environmental fat data requirements were waived for sulphur based on the fact that it is a natural component of the environment. The use of elemental sulphur as a pesticides or soil amendment is not an environmental concern because it becomes incorporated into the natural sulphur cycle.

Leaching (Mobility) in soil:

Elemental Sulphur leaches in soil as sulfate at a slow rate. About 3-65 of the sulphur (formulation and purity unspecified) applied at 56 Kg/ha. Leached through lysimeters of loam soil (soil depth unspecified) as a result of 40 inches of rain over a six-month period. After two years, 23-29% of the applied sulphur had leached.

Effect on microbial process:

The effect of a long – term applications of sulfite, thiosulphate and sodium sulfate on the soil microform compounds decreased seedling was investigated in a pot experiment. Sulphur compound decreased the concentration of bacteria including thiobacilli. Increased the concentration of microscopic fungi and sulphate-reducing bacteria;

They inhibited respiration nitircation and oxidation of elemental sulphur.

In certain cased the spruce rhizosphere exhibited just the opposite effect.

In the rhizosphere the sulphate reducing bacteria was suppressed together with thiobacilli, whose unit oxidative activity increased substantially. Growth of seedling was inhibited by sulphite the effect of which was similar to those of sulphur dioxide immissions, was the most effective compound. In regions influenced by immsions the soil is apparently intoxicated by the absorbed.

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Fate in Plants:

Fate in water:

Hydrolysis

Half – life under acidic conditions (ph).....C).....hours

Half – under acidic conditions (ph).....C).....days

Photolysis:

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Metabolism in plant:

Summary on metabolism and disposition in plant:

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Fate in animal:

Sulphur is rapidly converted to hydrogen sulfide by microbial metabolism in the intestine. The reaction is more rapid and complete if the sulphur is in colloidal rather than powdered form. A portion of absorbed sulphur is excreted and part entered form. In to the general metabolic pool. When radioactive sulphur was fed to sheep, activity appeared in the wool within 2 weeks, and continued feeding of sulphur changed the physical properties of the wool fibers by changing number of disulfide linkages.

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Toxicity to aquatic organs:

Rate of hydrolysis at PH levels:

Half-life under acidic conditions (ph)C).....hours

Half-life under acidic conditions (ph).....C).....hours

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Photo degradation rate:

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10- Safety handling storage and disposal

Storage and handling:

Containers should be stored in a cool, dry, well ventilated area keep container tightly closed. Store away from flammable materials, sources of heats, flame and sparks. Separate from chlorates, nitrate and other oxidizing agents. Exercise due caution to prevent damage to or leakage from container.

Shelf-life:

Shelf life is to years in original unopened container under ambient conditions.

Handling precautions:

- keep locked up out of reach of children and persons
- avoid contact with eyes and skin and do not reuse containers
- Do not use in dark weather and inhalation of spray.

Signs and symptoms of ever exposure:

Skin contact:

No adverse effects. Skin irritation may be aggravated in persons with existing skin lesions wash exposed clothing separately before reuse.

Eye contact:

Sulphur dust or WP is an eye irritant. Avoid contact with eyes, especially contact wearers, and wear safety Glasses.

Inhalation:

Prolonged inhalation may cause irritation of respiratory tract. Breath of dust may aggravate asthma and other pulmonary diseases. Individuals with know allergies to sulphide drugs may also have allergic reaction to present. Wear dust masks and use NIOSH/MSHA approved dust respirator if airborne concentrations exceed exposure limits

Ingestion:

Ingested sulphur is converted to sulfides in the gastrointestinal tract, and ingestion of 10 to 20 grams has caused irritation of the GI tract and renal injury. Individuals with known allergies to sulfides drugs may also have allergic reaction to elemental sulphur. Swallowing large amounts may cause nausea and vomiting. Do not eat sulphur.

Note to physician:

No specific antidote, Treat the patient symptomatically

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11- First Aid Measures

IF swallowed:

For large amounts ingested, if the victim is conscious and alert, give two or more glasses of water to drink. If available, give one tablespoon of Syrup of Ipecac to induce vomiting. If vomiting does occur, give fluids again. If repeated one additional time, alternatively, vomiting may be induced by touching the back of person. Get Medical Attention

IF in eye:

In case of contact, immediately flush eyes with plenty of water for a minimum of fifteen minutes. Hold upper and lower lids apart to insure rinsing of the entire eye surface and lids. Do not use boric acid to rinse with; sulphur is an acid irritant. **FOR MORE IRRITATION, GET MEDICAL ATTENTION**, preferably an ophthalmologist

IF on skin:

Wash skin with plenty of mild soap and water

IF inhaled:

Move patient to fresh air. Watch for signs of allergic reaction. Use a bronchodilator inhaler if directed by asthma patient. Keep victim warm and quiet. If not breathing, clear airway and start mouth-to-mouth resuscitation. If heart has stopped breathing, start Cardio-Pulmonary Resuscitation (CPR). **GET MEICAL ATTENTION.**

ANTIDOTE: No special antidote. Treat symptomatically.

Remarks:

- Avoid getting product in eyes and on skin
- After work change clothing and wash entire body
- Wash hands and face before eating, drinking or smoking