



MATERIAL SAFETY DATA SHEET

PRODUCT : SULFENTRAZONE 480SC
EFFECTIVE DATE : August 2020
REVISION NO : 1
PAGE : 1 of 4

1. SUPPLIER : **NOVA AGRO (HK) LTD.**
(Reg. No. 1023146)
6th Floor Wyndham Place
44 Wyndham Street
CENTRAL HONG KONG.
TEL No.: +852 3586 2521

EMERGENCY TELEPHONE NUMBERS

SPILLAGES :
Telephone No. : 27-83-676 1998

POISONINGS:
National Poison Centre : 27-21-9386084 (office hours).
(South Africa) : 27-800 33444 (24 h)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common Name: sulfentrazone
Chemical Name: N-[2,4-dichloro-5-(4-difluoromethyl-3-methyl-5-oxo-4,5-dihydro-[1,2,4]triazol-1-yl)phenyl]methane sulfonamide
CAS No.: 122836-35-5
Chemical Family: triazolone herbicides
Chemical Formula: C₁₁H₁₀Cl₂F₂N₄O₃S
Formulation: sulfentrazone 480g/l SC
Use / Mode of Action: Pre-emergence herbicide for control of sedges and certain broadleaf weeds in soya and tobacco.
Symbol: Xi, Xn, N
Indication of danger: Irritant, Harmful, Environmentally dangerous
RISK-PHASE(S): R 20/22, R 36/38, R 57

3. HAZARDS IDENTIFICATION EMERGENCY OVERVIEW

- Off-white liquid with a faint, alcoholic odor.
- Slightly combustible. May support combustion at elevated temperatures.
- Thermal decomposition and burning may form toxic by-products.

- For large exposures or fire, wear personal protective equipment.
- Slightly toxic to fish and aquatic organisms. Keep out of drains and water courses.

POTENTIAL HEALTH EFFECTS: Effects from over-exposure result from inhaling this product. Symptoms of overexposure include convulsions, tremors, increased sensitivity to touch and sound, labored breathing, decreased locomotion, tearing, nasal discharge and incoordination.

MEDICAL CONDITIONS AGGRAVATED:
None presently known.

4. FIRST AID MEASURES

EYES: Flush with plenty of water. Get medical attention if irritation occurs and persists.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: This product has low oral, dermal and inhalation toxicity. It is slightly irritating to the skin and non-irritating to the eyes. Contains toluene which can produce a severe pneumonitis if aspirated during vomiting. Consideration should be given to gastric lavage with an endotracheal tube in place. Treatment is otherwise controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam, CO₂ or dry chemical. Soft stream water fog only if necessary. Contain all runoffs.

FIRE / EXPLOSION HAZARDS: Slightly combustible. This material may support combustion at elevated temperatures.

FIRE FIGHTING PROCEDURES: Isolate fire area. Evacuate downwind. Wear full protective clothing and self-



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contained breathing apparatus. Do not breathe smoke, gases or vapors generated.

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Isolate and post spill area. Wear protective clothing and personal protective equipment as prescribed in Section 8, "Exposure Controls/Personal Protection". Keep unprotected persons and animals out of the area.

Keep material out of lakes, streams, ponds and sewer drains. Dike to confine spill and absorb with a noncombustible absorbent such as clay, sand or soil. Vacuum, shovel or pump waste into a drum and label contents for disposal.

To clean and neutralize spill area, tools and equipment, wash with a suitable solution of caustic or soda ash, and an appropriate alcohol (i.e., methanol, ethanol or isopropanol). Follow this by washing with a strong soap and water solution. Absorb, as above, any excess liquid and add to the drums of waste already collected. Repeat if necessary. Dispose of drummed waste according to the method outlined in Section 13, "Disposal Considerations".

7. HANDLING AND STORAGE

HANDLING AND STORAGE: Store in a cool, dry, well-ventilated place. Do not use or store near heat, open flame or hot surfaces. Store in original containers only. Keep out of reach of children and animals. Do not contaminate other pesticides, fertilizers, water, food or feed by storage or disposal.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: For splash, mist or spray exposure, wear chemical protective goggles or a face shield.

RESPIRATORY: For splash, mist or spray exposure wear, as a minimum, a properly fitted half-face or full-face air-purifying respirator which is approved for pesticides (U.S.NIOSH/MSHA, EU CEN or comparable certification organization).

Respirator use and selection must be based on airborne concentrations.

PROTECTIVE CLOTHING: Depending upon concentrations encountered, wear coveralls or long-sleeved uniform and head covering. For larger exposures as in the case of spills, wear full body cover barrier suit, such as a PVC suit. Leather items - such as shoes, belts and watchbands - that become contaminated should be removed and destroyed. Launder all work clothing before reuse (separately from household laundry).

GLOVES: Wear chemical protective gloves made of materials such as butyl rubber, nitrile or neoprene. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

WORK HYGIENIC PRACTICES: Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking or using tobacco. Shower at the end of the workday.

COMMENTS:

Personal protective recommendations for mixing or applying this product are prescribed on the product label. Information stated above provides useful, additional guidance for individuals whose use or handling of this product is not guided by the product label.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOUR: Faint, alcoholic

APPEARANCE: Off-white liquid

DENSITY / WEIGHT PER VOLUME: 1206 g/L

FLASH POINT: >93°C (> 199°F) (TCC)

MOLECULAR WEIGHT: 387.19 (sulfentrazone)

pH: 5.6 @ 20°C

SOLUBILITY IN WATER: Disperses

SPECIFIC GRAVITY: 1.22 @ 20°C (water = 1)

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: Excessive heat and fire.

STABILITY: Stable

POLYMERIZATION: Will not occur



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HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur oxides, hydrogen chloride, hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Non-irritating

SKIN EFFECTS: Slightly irritating

DERMAL LD₅₀: > 2,000 mg/kg (rat)

ORAL LD₅₀: 2,084 mg/kg (rat)

INHALATION LC₅₀: >2.72mg/l(4h)(rat). Maximum attainable concentration - zero mortality

ACUTE EFFECTS FROM OVEREXPOSURE:

This product has low oral, dermal and inhalation toxicity. It is slightly irritating to the skin and non-irritating to the eyes. Signs of toxicity in laboratory animals included clonic convulsions, tremors, recumbency, splayed limbs and decreased locomotion. In humans, ingestion of large amounts of propylene glycol has resulted in symptoms of reversible central nervous system depression including stupor, rapid breathing and heartbeat, profuse sweating and seizures. Effects observed in laboratory animals after acute inhalation of toluene included mucous membrane irritation, motor incoordination, prostration, changes in respiratory rate, changes in serum and blood enzyme activities, elevated blood glucose and packed cell volume, decreased body weight and death. Vomiting after ingestion of this product may cause aspiration of toluene into the lungs, which may result in fatal pulmonary edema.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the formulation. Sulfentrazone was not carcinogenic in lifetime feeding studies with laboratory animals, nor was it found to be mutagenic in a battery of tests. In a reproduction study, sulfentrazone produced adverse effects on the growth and survival of the offspring, decreased male fertility and oligospermia at 25mg/kg/day, and 35 mg/kg/day. Sulfentrazone was found to be fetotoxic in oral and dermal developmental toxicity studies; the fetal NOELS were 10 mg/kg/day and 100 mg/kg/day, respectively. At labeled use rates and practices of mixing and applying, expected exposure to farm workers is at least one hundred times lower than the doses that produced effects in laboratory animals. Repeated overexposure to propylene glycol can produce central nervous system depression, hemolysis and minimal kidney damage.

Chronic exposure to toluene may cause headaches, dizziness, loss of sensations or feelings (such as numbness), and liver and kidney damage. Inhalation of toluene vapors at high doses have also resulted in an increased incidence of malformations and decreased fetal weight in laboratory animals.

CARCINOGENICITY:

NTP: Not listed

IARC: Not listed

OSHA: Not listed

OTHER: Not Listed (ACGIH)

12. ECOLOGICAL INFORMATION

Unless otherwise indicated, the data presented below are based on the active ingredient.

ENVIRONMENTAL DATA: Sulfentrazone is stable in soil (half-life = 18 months). In water, sulfentrazone is stable to hydrolysis over the pH range of 5 to 9, however, it will readily undergo photolysis (half-life <0.5 day). Sulfentrazone has a low affinity for organic matter (K_{oc} = 43), but is mobile only in soils with high sand content. The potential for sulfentrazone to bioaccumulate is very low, having a Log Pow of 1.48, and a bioconcentration factor of 1.1 - 2.0.

ECOTOXICOLOGICAL INFORMATION: Sulfentrazone is slightly toxic to fish and aquatic arthropods, with LC₅₀ values ranging from 60.4mg/L to >130 mg/L. Sulfentrazone has a very low order of toxicity to upland game birds (oral LD₅₀ > 2,250 mg/kg).

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Open dumping or burning of this material or its packaging is prohibited. If spilled material cannot be disposed of by use according to label instructions, an acceptable method of disposal is to incinerate in accordance with local, state and national environmental laws, rules, standards and regulations. However, because acceptable methods of disposal may vary by location and regulatory requirements may change, the appropriate agencies should be contacted prior to disposal.

EMPTY CONTAINER: Non-returnable containers that held this material should be cleaned, prior to disposal, by triple



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rinsing. Containers which held this material may be cleaned by being triple rinsed, and recycled, with the rinsate being incinerated. Do not cut or weld metal containers. Vapors that form may create an explosion hazard.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PACKAGING TYPE: Non-Bulk

ADDITIONAL INFORMATION: NOTES: This product meets none of the defining criteria established for a hazardous material.

PACKAGING TYPE: Bulk

ADDITIONAL INFORMATION: NOTES: This product meets none of the defining criteria established for a hazardous material.

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

ADDITIONAL INFORMATION: Flash point: >93°C (>199°F)

NOTES: This product meets none of the defining criteria established for a dangerous good.

ADR - EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD

PROPER SHIPPING NAME: Environmentally hazardous substance, liquid, n.o.s.

TECHNICAL NAME(S): sulfentrazone

PRIMARY HAZARD CLASS / DIVISION: 9

CLASSIFICATION CODE: M6

UN/NA NUMBER: UN3082

PACKING GROUP: III

HAZARD IDENTIFICATION NUMBER: 90

MARINE POLLUTANT: sulfentrazone

LABEL(S): 9

PLACARD(S): 9

MARKING(S): UN3082 + Marine Pollutant

ADDITIONAL INFORMATION: Road or Rail: ADR

NOTES: Sulfentrazone technical qualifies as a marine pollutant as a result of toxicity to algae.

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO)/INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

ADDITIONAL INFORMATION: NOTES: This product meets none of the defining criteria established for a dangerous good.

OTHER INFORMATION:

HARMONIZED SYSTEM

Import to the U.S.A.: 3808.30.1500

Export from U.S.A.: 3808.30.0000

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT) SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A): Not listed

SECTION 311 HAZARD CATEGORIES (40 CFR 370):

Immediate, Delayed

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):

The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.: None

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):

This product contains the following ingredients subject to Section 313 reporting requirements:

Toluene

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4): Listed

Chemical Name RQ

Toluene 1,000 lb

INTERNATIONAL LISTINGS

Australian Hazard Code: 3XE

HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

Toluene, (Index #601-021-00-3):

EC Symbols:

F (Highly Flammable)

Xi (Irritant)

Xn (Harmful)

EC Risk Phrases: R11 (Highly flammable)



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R38 (Irritating to skin)

R48/20 (Harmful: danger of serious damage to health by prolonged exposure through inhalation)

R63 (Possible risk of harm to the unborn child)

R65 (Harmful: may cause lung damage if swallowed.)

R67 (Vapors may cause drowsiness and dizziness.)

EC Safety Phrases: S2 (Keep out of the reach of children.)

S36/37 (Wear suitable protective clothing and gloves.)

S46 (If swallowed, seek medical advice immediately and show this container or label.)

S62 (If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.)

16. OTHER INFORMATION

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