

SAFETY DATA SHEET
BORAL 480 SC

SDS # : 1466-12-A
Revision date: 2017-11-06
Format: NA
Version 1



1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name BORAL 480 SC

Other means of identification

Product Code(s) 1466-12-A

Synonyms SULFENTRAZONE (FMC 97285):
2',4'-dichloro-5'-(4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl)
methanesulfonanilide (IUPAC name);
N-[2,4-dichloro-5-[4-(difluoromethyl)-4,5-dihydro-3-methyl-5-oxo-1H-
1,2,4-triazol-1-yl]phenyl] methanesulfonamide (CAS name), Xanthan Gum

Active Ingredient(s) Sulfentrazone

Formula C₁₁H₁₀Cl₂F₂N₄O₃S (Sulfentrazone)

Chemical Family Triazolinones

Recommended use of the chemical and restrictions on use

Recommended Use: Herbicide

Restrictions on Use: Use as recommended by the label

Supplier Address

FMC Corporation
2929 Walnut Street
Philadelphia, PA 19104
(215) 299-6000 (General Information)
msdsinfo@fmc.com (E-Mail General Information)

Emergency telephone number

For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527 3887 (CHEMTREC - Alternate)

Medical Emergencies:
1 800 / 331-3148 (ProPharma Group - U.S.A. & Canada)
1 651 / 632-6793 (ProPharma Group - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Classification


OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Specific target organ toxicity (repeated exposure)	Category 2
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GHS Label elements, including precautionary statements

EMERGENCY OVERVIEW

<p>Warning</p> <p>Hazard Statements H373 - May cause damage to organs through prolonged or repeated exposure</p> 

Precautionary Statements - Prevention

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Precautionary Statements - Response

P314 - Get medical advice/ attention if you feel unwell

Precautionary Statements - Disposal

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

Hazards not otherwise classified (HNOC)

No hazards not otherwise classified were identified.

Other Information

Very toxic to aquatic life.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family Triazolinones.

Chemical name	CAS-No	Weight %
Sulfentrazone	122836-35-5	40
Propylene glycol	57-55-6	5-10
Toluene	108-88-3	1-5

Synonyms are provided in Section 1.

4. FIRST AID MEASURES

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. Call a poison control center or doctor for further treatment advice.
Skin Contact	Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for further treatment advice.
Inhalation	Move to fresh air. If person is not breathing, contact emergency medical services, then give

artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further 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 a poison control center or doctor. Do not give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed Central nervous system effects.

Indication of immediate medical attention and special treatment needed, if necessary Treat symptomatically

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media Carbon dioxide (CO₂). Foam. Dry powder. Water spray. Avoid heavy hose streams.

Specific Hazards Arising from the Chemical Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosion data

Sensitivity to Mechanical Impact Not sensitive.

Sensitivity to Static Discharge Not sensitive.

Protective equipment and precautions for firefighters Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Other For further clean-up instructions, call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

Environmental Precautions Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

Methods for Containment Dike to prevent runoff. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Clean and neutralize spill area, tools and equipment by washing with water and soap. Absorb rinsate and add to the collected waste. Waste must be classified and labeled prior to recycling or disposal. Dispose of waste as indicated in Section 13.

7. HANDLING AND STORAGE

Handling Do not contaminate other pesticides, fertilizers, water, food, or feed by storage or disposal.

Storage Keep in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep out of reach of children and animals. Store in original container.

Incompatible products None known

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	Mexico
Toluene	TWA: 20 ppm	TWA: 200 ppm	IDLH: 500 ppm	Mexico: TWA 50 ppm

(108-88-3)		Ceiling: 300 ppm	TWA: 100 ppm TWA: 375 mg/m ³ STEL: 150 ppm STEL: 560 mg/m ³	Mexico: TWA 188 mg/m ³
Chemical name	British Columbia	Quebec	Ontario TWA/EV	Alberta
Propylene glycol (57-55-6)	-	-	TWA: 10 mg/m ³ aerosol only TWA: 50 ppm aerosol and vapor TWA: 155 mg/m ³ aerosol and vapor	-
Toluene (108-88-3)	TWA: 20 ppm	TWA: 50 ppm TWA: 188 mg/m ³ Skin	TWA: 20 ppm	TWA: 50 ppm TWA: 188 mg/m ³ Skin

Appropriate engineering controls

Engineering measures Apply technical measures to comply with the occupational exposure limits (if listed above). When working in confined spaces (tanks, containers, etc.), Make sure there is an adequate source of air for breathing and wear the recommended equipment. Ventilate all transport vehicles prior to discharge.

Individual protection measures, such as personal protective equipment

- Eye/Face Protection** For exposure to mists or sprays, wear safety goggles or face shield for chemical agents.
- Skin and Body Protection** Use coveralls or long-sleeved uniform and head covering. For large exposures as in case of a spill, use barrier suit covering the entire body, such as a waterproof PVC suit. Leather items, including shoes, belts and watchbands, that have been contaminated should be removed and destroyed. Wash all work clothing before reuse (separately from clothing commonly used).
- Hand Protection** Use protective gloves made of chemical materials such as nitrile or neoprene. Wash the outside of gloves with soap and water before reuse. Check regularly for leaks.
- Respiratory Protection** For splash, spray or mist exposure wear, as a minimum, a properly fitted half-face or full-face respirator with dust/mists/fume cartridges (approved by U.S. NIOSH/MSHA, EU CEN or comparably certified organization). Respirator use and selection must be based on airborne concentrations.
- Hygiene measures** Must have clean water available for washing in case of eye or skin contamination. Wash skin before eating, drinking, chewing gum, or using snuff. Shower after work. Remove contaminated clothing and wash before reuse. Wash all work clothing separately; do not mix with household laundry.
- General information** If the product is used in mixtures, it is recommended that you contact the appropriate protective equipment suppliers. These recommendations apply to the product as supplied

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Off-white Liquid
Physical State	Liquid
Color	Off-white
Odor	Low Alcohol
Odor threshold	No information available
pH	5.3-6.0 @ 20°C
Melting point/freezing point	123 °C
Boiling Point/Range	No information available

Flash point	> 94 °C / > 201 °F Tag Closed Cup
Evaporation Rate	No information available
Flammability (solid, gas)	No information available
Flammability Limit in Air	
Upper flammability limit:	No information available
Lower flammability limit:	No information available
Vapor pressure	1 x 10 ⁻⁹ mm Hg at 25°C
Vapor density	No information available
Density	10.07 lb/gal
Specific gravity	1.206 @ 20 °C (water = 1)
Water solubility	Dispersible in water
Solubility in other solvents	No information available
Partition coefficient	No information available
Autoignition temperature	No information available
Decomposition temperature	No information available
Viscosity, kinematic	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidizing properties	No data available
Molecular weight	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

Reactivity	None under normal use conditions.
Chemical Stability	Stable.
Possibility of Hazardous Reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat
Incompatible materials	None known.
Hazardous Decomposition Products	Carbon oxides (COx), Nitrogen oxides (NOx), Sulfur oxides, Hydrogen chloride, Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION

Product Information

LD50 Oral	2084 mg/kg (rat)
LD50 Dermal	> 2000 mg/kg (rabbit)
LC50 Inhalation	> 2.72 mg/L 4 hr (rat) - Maximum attainable concentration (zero mortality)

Serious eye damage/eye irritation	Non-irritating.
Skin corrosion/irritation	Minimally irritating.
Sensitization	Did not cause sensitization on laboratory animals.

Information on toxicological effects

Symptoms	Signs of toxicity in laboratory animals given sulfentrazone included clonic convulsions, ataxia, hypersensitivity to touch, chromorhinorrhea, abdominogenital staining, decreased locomotion, lacrimation, nasal discharge, and squinting eyes.
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic toxicity	Sulfentrazone: Prolonged exposure cause decreased hemoglobin content and hematocrit, and increased spleen weight and splenic extramedullary hematopoiesis at high doses in animal studies
Mutagenicity	Sulfentrazone: Not genotoxic in animal studies
Carcinogenicity	Sulfentrazone: No evidence of carcinogenicity from animal studies
Neurological effects	Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels.

Reproductive toxicity Sulfentrazone: No toxicity to reproduction in animal studies.
Developmental toxicity Sulfentrazone: Fetal weight decreased; delayed skeletal ossification observed at maternally non-toxic doses are reversible effects and a dose-response is established; malformations observed in fetuses at maternally toxic doses and consistent with the mode of action for protoporphyrinogen oxidase inhibitors. Developmental toxicity testing and results were generated for sulfentrazone with toluene present as an impurity.
STOT - single exposure Not classified.
STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Target organ effects Sulfentrazone: Hematopoietic system.
Neurological effects Sulfentrazone: Clinical signs of neurotoxicity in laboratory animals was observed at high dose levels.
Aspiration hazard No information available.

Chemical name	ACGIH	IARC	NTP	OSHA
Toluene 108-88-3		Group 3		

Legend:
IARC (International Agency for Research on Cancer)
 Group 3 - Not classifiable as to its carcinogenicity to humans

12. ECOLOGICAL INFORMATION

Ecotoxicity

Sulfentrazone (122836-35-5)				
Active Ingredient(s)	Duration	Species	Value	Units
Sulfentrazone	72 h EC50	Algae	32.8	mg/L
	48 h EC50	Crustacea	60.4	mg/L
	96 h LC50	Fish	94	mg/L
	21 d NOEC	Fish	5.9	mg/L
	21 d NOEC	Crustacea	0.51	mg/L

Persistence and degradability Sulfentrazone: Persistent, Does not readily hydrolyze, Not readily biodegradable.
Bioaccumulation Sulfentrazone: The substance does not have a potential for bioconcentration.
Mobility Sulfentrazone: Mobile, Has potential to reach ground water.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance. Proper personal protective equipment, as described in Sections 7 and 8, must be worn while handling materials for waste disposal.
Contaminated Packaging Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions. Do not reuse or refill this container.

14. TRANSPORT INFORMATION

DOT This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.
UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Packing Group III
TDG Classification below is only applicable when shipped by vessel and is not applicable when

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shipped by road or rail only.
UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Marine Pollutant Sulfentrazone.
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone), 9, PGIII, Marine Pollutant

ICAO/IATA

UN/ID no UN3082
Proper Shipping Name Environmentally hazardous substance, liquid, n.o.s.
Hazard class 9
Packing Group III
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone), 9, PGIII, Marine Pollutant

IMDG/IMO

UN/ID no UN3082
Hazard class 9
Packing Group III
EmS No. F-A, S-F
Marine Pollutant Sulfentrazone
Description UN3082, Environmentally hazardous substance, liquid, n.o.s. (sulfentrazone), 9, PGIII, Marine Pollutant

15. REGULATORY INFORMATION

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical name	CAS-No	Weight %	SARA 313 - Threshold Values %
Toluene - 108-88-3	108-88-3	1-5	1.0

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic health hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	X	X
Sodium Hydroxide 1310-73-2	1000 lb			X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
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Toluene 108-88-3	1000 lb 454 kg	
Sodium Hydroxide 1310-73-2	1000 lb 454 kg	

FIFRA Information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION

Causes moderate eye irritation. Harmful if inhaled, swallowed, or absorbed through skin.
 This pesticide is toxic to marine/estuarine invertebrates

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical name	California Prop. 65
Toluene - 108-88-3	Developmental

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Propylene glycol 57-55-6	X		X
Toluene 108-88-3	X	X	X

International Inventories

Chemical name	TSCA (United States)	DSL (Canada)	EINECS/ELINC S (Europe)	ENCS (Japan)	China (IECSC)	KECL (Korea)	PICCS (Philippines)	AICS (Australia)
Propylene glycol 57-55-6	X	X	X	X	X	X	X	X
Toluene 108-88-3	X	X	X	X	X	X	X	X

Mexico - Grade

Moderate risk, Grade 2

Chemical name	Carcinogen Status	Mexico
Toluene		Mexico: TWA 50 ppm Mexico: TWA 188 mg/m ³

Chemical name	Mexico - Pollutant Release and Transfer Register - Reporting Emissions for Fabrication, Process or Use - Threshold Quantities	Pollutant Release and Transfer Register - Reporting Emissions - Threshold Quantities
Toluene	1000 5000 kg/yr	1000 kg/yr

WHMIS Statement

This product has been classified in accordance with the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

WHMIS Hazard Class D2A - Very toxic materials



16. OTHER INFORMATION

NFPA	Health Hazards 1	Flammability 1	Instability 0	Special Hazards -
HMIS	Health Hazards 1*	Flammability 1	Physical hazard 0	Personal Protection X

Revision date: 2017-11-06
Reason for revision: Initial Release

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End of Safety Data Sheet