

SAFETY DATA SHEET



Boral 480 SC

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2021/12/17	50000370	Date of first issue: 2021/12/17

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Boral 480 SC

Other means of identification : Boral 40 SC
BORAL 48 SC
BANDOLIER
SULFENTRAZONE (AUTHORITY/ SPARTAN) 4F
DISMISS CA
AUTHORITY 48 SC
ZEUS
WEED B GON FLEX HERBICIDE
AMBITION 1 HERBICIDE
SLUFENTRAZONE LIQUID MUP
DISMISS TURF HERBICIDE

Recommended use of the chemical and restrictions on use

Recommended use : Can be used as herbicide only.

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Corporation

Address : 2929 WALNUT ST
PHILADELPHIA PA 19104

Telephone : (215) 299-6000

Emergency telephone : For leak, fire, spill or accident emergencies, call:
001-803-017-9114 (CHEMTREC)
1 703 / 741-5970 (CHEMTREC - International)

Medical emergency:
0800 140 1447

2. HAZARDS IDENTIFICATION

GHS Classification

Specific target organ toxicity - repeated exposure : Category 2 (hematopoietic system)

Long-term (chronic) aquatic hazard : Category 2

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GHS label elements

Hazard pictograms



Signal Word

: Warning

Hazard Statements

: H373 May cause damage to organs (hematopoietic system) through prolonged or repeated exposure.
H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements

: **Prevention:**

P260 Do not breathe mist or vapors.
P273 Avoid release to the environment.

Response:

P314 Get medical advice/ attention if you feel unwell.
P391 Collect spillage.

Disposal:

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

Other hazards which do not result in classification

None known.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Sulfentrazone	122836-35-5	>= 30 -< 60

4. FIRST AID MEASURES

General advice

: Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled

: If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

In case of skin contact

: Wash off with soap and water.
Get medical attention if irritation develops and persists.

In case of eye contact

: Flush eyes with water as a precaution.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.

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- If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.
- Most important symptoms and effects, both acute and delayed : May cause damage to organs through prolonged or repeated exposure.
- Notes to physician : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical
Carbon dioxide (CO₂)
Water spray
Foam
- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon oxides
Nitrogen oxides (NO_x)
Halogenated compounds
Sulfur oxides
- Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

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- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapors/dust.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Electrical installations / working materials must comply with the technological safety standards.
- Further information on storage stability : No decomposition if stored and applied as directed.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

- Respiratory protection : In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.
- Hand protection
Material : Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
- Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.
- Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
- Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hygiene measures : Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : liquid
- Color : light brown

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Odor	: alcohol-like
pH	: 5,3 - 6 (20 °C)
	: 123 °C
Flash point	: > 93,3 °C
	Method: closed cup
Self-ignition	: No data available
Density	: 10,07 lb/gal
Bulk density	: 1,206 g/cm ³
Solubility(ies)	
Water solubility	: dispersible
Viscosity	
Viscosity, dynamic	: 590 - 624 mPa.s
Explosive properties	: Not explosive
Oxidizing properties	: Non-oxidizing

10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.
Conditions to avoid	: Protect from frost, heat and sunlight.
Incompatible materials	: Strong acids Strong bases Strong oxidizing agents
Hazardous decomposition products	: Nitrogen oxides (NO _x) Carbon oxides Sulfur oxides Halogenated compounds

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

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Product:

Acute oral toxicity	: LD50 (Rat, female): 2.084 mg/kg Method: US EPA Test Guideline OPP 81-1
Acute inhalation toxicity	: LC50 (Rat): > 2,72 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: US EPA Test Guideline OPP 81-3 Assessment: The component/mixture is minimally toxic after short term inhalation.
Acute dermal toxicity	: LD50 (Rabbit, male and female): > 2.000 mg/kg Method: US EPA Test Guideline OPP 81-2 Assessment: The substance or mixture has no acute dermal toxicity

Components:

Sulfentrazone:

Acute oral toxicity	: LD50 (Rat, male): 3.034 mg/kg LD50 (Rat, female): 2.689 mg/kg LD50 (Rat, male and female): 2.855 mg/kg
Acute inhalation toxicity	: LC50 (Rat): > 4,13 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	: LD50 (Rabbit, male and female): > 2.000 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Species	: Rabbit
Method	: US EPA Test Guideline OPP 81-5
Result	: No skin irritation

Components:

Sulfentrazone:

Species	: Rabbit
Method	: OECD Test Guideline 404
Result	: No skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Species	: Rabbit
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Result	:	No eye irritation
Method	:	US EPA Test Guideline OPP 81-4

Components:

Sulfentrazone:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Test Type	:	Skin sensitization
Routes of exposure	:	Skin contact
Species	:	Guinea pig
Method	:	US EPA Test Guideline OPP 81-6
Result	:	Does not cause skin sensitization.

Components:

Sulfentrazone:

Test Type	:	Maximization Test
Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.

Germ cell mutagenicity

Not classified based on available information.

Components:

Sulfentrazone:

Genotoxicity in vitro	:	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative
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	:	Test Type: Mouse lymphoma assay Test system: mouse lymphoma cells Metabolic activation: Metabolic activation Result: negative
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Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse Application Route: Intraperitoneal injection Result: negative
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Germ cell mutagenicity -	:	Animal testing did not show any mutagenic effects.
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Assessment

Carcinogenicity

Not classified based on available information.

Components:

Sulfentrazone:

Species	: Rat, male and female
Application Route	: Ingestion
Exposure time	: 2 Years
Result	: negative

Species	: Mouse, male and female
Application Route	: Ingestion
Exposure time	: 18 month(s)
Result	: negative

Carcinogenicity - Assessment	: Animal testing did not show any carcinogenic effects.
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Reproductive toxicity

Not classified based on available information.

Components:

Sulfentrazone:

Effects on fertility	: Test Type: Two-generation study Species: Rat, male and female Application Route: Oral General Toxicity Parent: NOEL: 13,7 - 16,2 mg/kg bw/day General Toxicity F1: NOEL: 13,7 - 16,2 mg/kg bw/day Symptoms: Maternal effects.
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Effects on fetal development	: Test Type: Embryo-fetal development Species: Rat Application Route: Oral General Toxicity Maternal: NOEL: 25 mg/kg bw/day Developmental Toxicity: NOEL: 10 mg/kg bw/day Symptoms: Maternal effects.
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STOT-single exposure

Not classified based on available information.

Components:

Sulfentrazone:

Remarks	: No significant adverse effects were reported
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STOT-repeated exposure

May cause damage to organs (hematopoietic system) through prolonged or repeated exposure.

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Components:

Sulfentrazone:

Target Organs	:	hematopoietic system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.

Repeated dose toxicity

Components:

Sulfentrazone:

Species	:	Rat, male and female
NOEL	:	65,8 - 78,1 mg/kg
Application Route	:	Oral - feed
Exposure time	:	90-days
Target Organs	:	hematopoietic system
Species	:	Mouse, male and female
NOEL	:	60 - 79,8 mg/kg
Application Route	:	Oral - feed
Exposure time	:	90-days
Target Organs	:	hematopoietic system

Aspiration toxicity

Not classified based on available information.

Components:

Sulfentrazone:

The substance does not have properties associated with aspiration hazard potential.

Further information

Product:

Remarks	:	No data available
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12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Sulfentrazone:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 60,4 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (algae): 32,8 mg/l Exposure time: 72 h

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EC50 (Pseudokirchneriella subcapitata (green algae)): 0,031 mg/l
Exposure time: 120 h

EC50 (Navicula pelliculosa (Diatom)): 0,042 mg/l
Exposure time: 120 h

EC50 (Lemna gibba (duckweed)): 0,0288 mg/l
Exposure time: 14 d

Toxicity to fish (Chronic toxicity) : NOEC (Fish): 5,9 mg/l
Exposure time: 21 d

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Crustaceans): 0,51 mg/l
Exposure time: 21 d

Toxicity to terrestrial organisms : LD50 (Anas platyrhynchos (Mallard duck)): > 5.620 mg/kg

LD50 (Apis mellifera (bees)): > 25 µg/bee
Remarks: Oral

LD50 (Apis mellifera (bees)): > 200 µg/bee
Remarks: Contact

Persistence and degradability

Components:

Sulfentrazone:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 2,22 - 9,56 h

Bioaccumulative potential

Components:

Sulfentrazone:

Bioaccumulation : Remarks: Bioaccumulation is unlikely.
See section 9 for octanol-water partition coefficient.

Partition coefficient: n-octanol/water : Remarks: No data available

Mobility in soil

Components:

Sulfentrazone:

Distribution among environmental compartments : Remarks: Mobile in soils

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Other adverse effects

Product:

Additional ecological information : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.
Toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Sulfentrazone)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(Sulfentrazone)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964
Environmentally hazardous : yes

IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(Sulfentrazone)
Class : 9

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Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

Minister of Industry Regulation No. 23/M-IND/PER/4/2013 concerning the Revision of Minister of Industry Regulation No. 87/M-IND/PER/9/2009 concerning Globally Harmonized System of Classification and Labelling of Chemicals.

Regulation of the Minister of Health No. 472 of 1996 on the Safeguarding of Substances Hazardous to Health

Hazardous substances that must be registered : Not applicable

Government Regulation No. 74 of 2001 on the Management of Hazardous and Toxic Substances

Hazardous substances approved for use : Not applicable

Prohibited substances : Not applicable

Restricted substances : Not applicable

Regulation of the Minister of Trade No. 44 of 2009 on Procurement, Distribution and Supervision of Hazardous Materials

Type of Hazardous Materials Restricted to Import, Distribution and Supervision : Not applicable

The ingredients of this product are reported in the following inventories:

TCSI : Not in compliance with the inventory

TSCA : Product contains substance(s) not listed on TSCA inventory.

AIIC : Not in compliance with the inventory

DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.

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2',4'-DICHLORO-5'-(4-DIFLUOROMETHYL-4,5-DIHYDRO-3-METHYL-5-OXO-1H-1,2,4-TRIAZOL-1-YL)METHANESULFONANILIDE

ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

16. OTHER INFORMATION

Date format : yyyy/mm/dd

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Sub-

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stances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Disclaimer

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