SAFETY DATA SHEET

AUTHORITY® 480 HERBICIDE

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	2025/07/07	50001719	Date of first issue: 2025/07/07

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : AUTHORITY® 480 HERBICIDE

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

Restrictions on use : Use as recommended by the label.

Manufacturer or supplier's details

Company : FMC Agro Philippines, Inc.

Address : Unit 10-A Six/NEO Bldg.,
5th Avenue cor. 26th Street,
1634 Bonifacio Global City, Taguig City
Philippines

Telephone : +63279443400

Telefax : +63279443465

E-mail address : SDS-Info@fmc.com

National Poison Control Center : U.P. PGH, Padre Faura, Manila (+63) 2 8524 1078
East Avenue, Quezon City (+63) 2 8928 0611
Southern Philippines Medical Center (+63) 82 227 2731
(formerly Davao Medical Center Davao City)

Emergency telephone : For leak, fire, spill or accident emergencies, call:
+(63) 2-395-3308 (CHEMTREC)
Toll-free mobile enabled: 1800 1 322 0553 (CHEMTREC)

Medical emergency:
All other countries: +1 651 / 632-6793 (Collect)

2. HAZARDS IDENTIFICATION

GHS Classification

Specific target organ toxicity - repeated exposure : Category 2

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements : H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very 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 -< 50

4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Show this material 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. If eye irritation persists, consult a specialist.
If swallowed	:	Induce vomiting immediately and call a physician. 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, CO2, water spray or regular foam.
Unsuitable extinguishing media	:	High volume water jet Do not spread spilled material with high-pressure water streams.
Specific hazards during fire fighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Fire may produce irritating, corrosive and/or toxic gases. Chlorinated compounds Fluorinated compounds Sulfur oxides Nitrogen oxides (NOx) Carbon 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	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Evacuate personnel to safe areas. If it can be safely done, stop the leak. Do not touch or walk through the spilled material. Mark the contaminated area with signs and prevent access to

unauthorized personnel.
Only qualified personnel equipped with suitable protective equipment may intervene.
For disposal considerations see section 13.

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 : Never return spills in original containers for re-use.
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

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Advice on safe handling : Do not breathe vapors/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
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

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.
Protective measures	:	Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Ensure that eye flushing systems and safety showers are located close to the working place. Wear suitable protective equipment. In the context of professional plant protection use as recommended, the end user must refer to the label and the instructions for use.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Form	:	liquid
Color	:	light brown
Odor	:	Faint, alcohol-like
pH	:	5.3 - 6.0 (20 °C)
Melting point/freezing point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	> 100 °C Method: closed cup
Vapor pressure	:	No data available
Density	:	1.206 g/cm3

Solubility(ies)		
Water solubility	:	suspendable
Partition coefficient: n-octanol/water	:	Not applicable
Viscosity		
Viscosity, kinematic	:	No data available

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	:	Avoid extreme temperatures. Protect from frost, heat and sunlight.
Incompatible materials	:	Strong acids and strong bases Strong oxidizing agents
Hazardous decomposition products	:	No hazardous decomposition products are known.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity	:	LD50 (Rat, female): 2,084 mg/kg Method: US EPA Test Guideline OPP 81-1
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 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, female): 2,689 mg/kg Symptoms: ataxia, clonic convulsions, Fatality GLP: yes
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 4.13 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: EPA OPP 81 - 3 Symptoms: ataxia, Breathing difficulties GLP: yes Remarks: no mortality
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 2,000 mg/kg Method: EPA OPP 81-2 GLP: yes Assessment: The component/mixture is minimally toxic after single contact with skin.

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

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

Components:

Sulfentrazone:

Species	:	Rabbit
Assessment	:	No skin irritation
Method	:	EPA OPP 81-5
Result	:	No skin irritation
GLP	:	yes

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

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

Components:

Sulfentrazone:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	No eye irritation

Method	:	EPA OPP 81-4
GLP	:	yes

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.

Respiratory sensitization

Based on available data, the classification criteria are not met.

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

Based on available data, the classification criteria are not met.

Components:

Sulfentrazone:

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

Carcinogenicity

Based on available data, the classification criteria are not met.

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.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Product:

Reproductive toxicity - Assessment	:	No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

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.
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 Method: EPA OPP 83-3 Test Type: Embryo-fetal development Species: Rat Application Route: Oral General Toxicity Maternal: LOAEL: 50 mg/kg bw/day Developmental Toxicity: LOAEL F1: 25 mg/kg bw/day Symptoms: Skeletal malformations. Target Organs: spleen Method: EPA OPP 83-3

STOT-single exposure

Based on available data, the classification criteria are not met.

Components:

Sulfentrazone:

Remarks : No significant adverse effects were reported

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Product:

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

Components:

Sulfentrazone:

Target Organs : hematopoietic system, Nervous 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
NOAEL : 19.9 mg/kg
LOAEL : 65.8 mg/kg
Application Route : Oral - feed
Exposure time : 90-days
GLP : yes
Target Organs : hematopoietic system

Species : Mouse, male
NOAEL : 60 mg/kg
LOAEL : 108.4 mg/kg
Application Route : Oral - feed
Exposure time : 90-days
Target Organs : hematopoietic system

Species : Dog, male
NOAEL : 10 mg/kg
LOAEL : 28 mg/kg
Application Route : Oral - feed
Exposure time : 90-days
Target Organs : hematopoietic system, Liver

Aspiration toxicity

Based on available data, the classification criteria are not met.

Components:

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

Neurological effects

Components:

Sulfentrazone:
Neurotoxity observed in animals studies

Further information

Product:

Remarks : No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Sulfentrazone:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: EPA OPP 72-1

LC50 (Lepomis macrochirus (Bluegill sunfish)): 93.8 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: EPA OPP 72-1

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 60.4 mg/l
Exposure time: 48 h
Test Type: flow-through test

NOEC (Daphnia magna (Water flea)): 14.1 mg/l
Exposure time: 48 h
Test Type: flow-through test

Toxicity to algae/aquatic plants : EC50 (algae): 32.8 mg/l
Exposure time: 72 h

EC50 (Pseudokirchneriella subcapitata (green algae)): 0.031 mg/l
Exposure time: 120 h

EC50 (Lemna gibba (duckweed)): 0.0288 mg/l
Exposure time: 14 d

EC50 (Navicula pelliculosa (Diatom)): 0.042 mg/l
Exposure time: 120 h

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 ppm
End point: Acute oral toxicity

NOEL (Anas platyrhynchos (Mallard duck)): 3,160 ppm
End point: Acute oral toxicity

LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm
End point: Acute oral toxicity

NOEL (Colinus virginianus (Bobwhite quail)): 5,620 ppm
End point: Acute oral toxicity

NOEL (Colinus virginianus (Bobwhite quail)): > 100 ppm
End point: Reproduction Test

NOEL (Anas platyrhynchos (Mallard duck)): > 100 ppm
End point: Reproduction Test

LD50 (Apis mellifera (bees)): > 25 µg/bee
End point: Acute oral toxicity

LD50 (Apis mellifera (bees)): > 200 µg/bee
End point: Acute contact toxicity

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Persistence and degradability

Components:

Sulfentrazone:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life (DT50): 2.22 - 9.56 h

Photodegradation : Remarks: Decomposes rapidly in contact with light.

Bioaccumulative potential

Components:

Sulfentrazone:

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill sunfish) GLP: yes Remarks: Low potential for bioaccumulation
Partition coefficient: n-octanol/water	:	Pow: 9.8 pH: 7

Mobility in soil

Components:

Sulfentrazone:

Mobility	:	Medium: Water Remarks: Predicted distribution to environmental compartments
Distribution among environmental compartments	:	Koc: 43 ml/g, log Koc: 1.63 Remarks: Highly mobile in soils

Other adverse effects

Product:

Additional ecological information	:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very 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
Environmentally hazardous	:	yes

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
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

Priority Chemical List (PCL)	:	Not applicable
Chemical Control Order (CCO)	:	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. Sulfentrazone
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

Revision Date	:	2025/07/07
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 Substanc-

es; (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 Substances 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

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