SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

T-PAC herbicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08/02/2024	50001601	Date of first issue: 08/02/2024

SECTION 1. IDENTIFICATION

Product identifier
Product name T-PAC herbicide

Other means of identification
Product code 50001601

Recommended use of the chemical and restrictions on use
Recommended use Herbicide

Restrictions on use Use as recommended by the label.
Do not use product for anything outside of the above specified uses.

Details of the supplier of the safety data sheet

Manufacturer
FMC Corporation
2929 WALNUT ST
PHILADELPHIA PA 19104
USA
(215) 299-6000
SDS-Info@fmc.com

Supplier Address
FMC Corporation
2929 Walnut Street
Philadelphia PA 19104
USA

Emergency telephone

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 emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin sensitization : Category 1

Specific target organ toxicity - repeated exposure : Category 2 (Thyroid, Nervous system)

GHS label elements

Hazard pictograms :

Signal Word : WARNING

Hazard Statements : H317 May cause an allergic skin reaction.
H373 May cause damage to organs (Thyroid, Nervous system) through prolonged or repeated exposure.

Precautionary Statements :

Prevention:

P260 Do not breathe dust.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of water and soap.
P314 Get medical advice/ attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.

Disposal:

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

Other hazards

Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
thifensulfuron-methyl (ISO)	79277-27-3	25
tribenuron-methyl (ISO)	101200-48-0	25
sodium dimethylnaphthalenesulphonate	27178-87-6	>= 1 - < 5
Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts	68425-94-5	>= 1 - < 5
calcium carbonate	471-34-1	>= 1 - < 5

SECTION 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	:	Move to fresh air. Consult a physician after significant exposure. If unconscious, place in recovery position and seek medical advice. If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
In case of skin contact	:	Take off all contaminated clothing immediately. Wash contaminated clothing before re-use. Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately 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	:	Keep respiratory tract clear. Do not induce vomiting without medical advice. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	May cause an allergic skin reaction. May cause damage to organs through prolonged or repeated exposure.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
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	:	Nitrogen oxides (NOx) Sulfur oxides Carbon oxides Fire may produce irritating, corrosive and/or toxic gases. Hydrogen cyanide
Further information	:	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.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation. Never return spills in original containers for re-use. 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	:	Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Avoid dust formation. Provide appropriate exhaust ventilation at places where dust is formed.
Advice on safe handling	:	Avoid formation of respirable particles. 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.

Provide sufficient air exchange and/or exhaust in work rooms.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
calcium carbonate	471-34-1	TWA (Respirable)	5 mg/m3 (Calcium carbonate)	NIOSH REL
		TWA (total)	10 mg/m3 (Calcium carbonate)	NIOSH REL

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

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 : Dust impervious protective suit
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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	solid
Form	:	granules
Color	:	light brown
Odor	:	slight
Odor Threshold	:	No data available
pH	:	8.6 - 9.4 (1% solution in water)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	0.65 - 0.73 g/cm3 (72 °F / 22 °C)

Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	dispersible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	Non-oxidizing
Particle size	:	No data available

SECTION 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	:	Dust may form explosive mixture in air. No decomposition if stored and applied as directed.
Conditions to avoid	:	Avoid extreme temperatures. Avoid dust formation.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

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

Product:

Acute oral toxicity	:	Acute toxicity estimate (Rat): > 5,000 mg/kg Method: Calculation method

Remarks: Toxicology data for the components

Acute inhalation toxicity : Acute toxicity estimate (Rat): > 6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: Calculation method
Remarks: Active ingredient

Acute dermal toxicity : Acute toxicity estimate (Rat): > 5,000 mg/kg
Method: Calculation method
Remarks: Toxicology data for the components

Components:

thifensulfuron-methyl (ISO):

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 7.9 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 2,000 mg/kg

tribenuron-methyl (ISO):

Acute oral toxicity : LD50: > 5,000 mg/kg
Method: OECD Test Guideline 425

Acute inhalation toxicity : LC50 (Rat): > 5.14 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg
Method: OECD Test Guideline 402

sodium dimethylnaphthalenesulphonate:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg
Method: OECD Test Guideline 401

LD50 (Rat): > 3,000 - 5,000 mg/kg
Method: OECD Test Guideline 401
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 404
Remarks: Based on data from similar materials

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

calcium carbonate:

Acute oral toxicity	:	LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403
Acute dermal toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

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

Product:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Result	:	No skin irritation
Remarks	:	Toxicology data for the components

Components:

thifensulfuron-methyl (ISO):

Assessment	:	No skin irritation
Method	:	OECD Test Guideline 404
Remarks	:	Minimal effects that do not meet the threshold for classification.

tribenuron-methyl (ISO):

Species	:	Rabbit
Assessment	:	Not classified as irritant
Method	:	OECD Test Guideline 404
Remarks	:	May cause mild irritation. Based on available data, the classification criteria are not met.

sodium dimethylnaphthalenesulphonate:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	Skin irritation

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Remarks	:	No data available

calcium carbonate:

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

Serious eye damage/eye irritation

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

Product:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	Not classified as irritant
Remarks	:	Toxicology data for the components
Remarks	:	Product dust may be irritating to eyes, skin and respiratory system.

Components:

thifensulfuron-methyl (ISO):

Result	:	No eye irritation
Method	:	OECD Test Guideline 405

tribenuron-methyl (ISO):

Species	:	Rabbit
Assessment	:	No eye irritation
Method	:	OECD Test Guideline 405
Remarks	:	May cause mild irritation. Based on available data, the classification criteria are not met.

sodium dimethylnaphthalenesulphonate:

Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 437
Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Result	:	Eye irritation

calcium carbonate:

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

Respiratory or skin sensitization

Skin sensitization

May cause an allergic skin reaction.

Respiratory sensitization

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

Product:

Assessment	:	May cause sensitization by skin contact.
Result	:	Causes skin sensitization.

Components:

thifensulfuron-methyl (ISO):

Species	:	Guinea pig
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitization.

tribenuron-methyl (ISO):

Test Type	:	Maximization Test
Species	:	Guinea pig
Assessment	:	May cause sensitization by skin contact.
Method	:	OECD Test Guideline 406
Result	:	Causes skin sensitization.

sodium dimethylnaphthalenesulphonate:

Result	:	Does not cause skin sensitization.

calcium carbonate:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Not a skin sensitizer.

Germ cell mutagenicity

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

Components:

thifensulfuron-methyl (ISO):

Genotoxicity in vitro	:	Test system: Chinese hamster ovary cells Method: OECD Test Guideline 476 Result: negative Remarks: In vitro tests did not show mutagenic effects
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

tribenuron-methyl (ISO):

Germ cell mutagenicity - Assessment	:	Did not show mutagenic effects in animal experiments.

sodium dimethylnaphthalenesulphonate:

Genotoxicity in vitro : Method: OECD Test Guideline 471
Result: negative

Method: OECD Test Guideline 476
Result: negative

calcium carbonate:

Genotoxicity in vitro : Test Type: reverse mutation assay
Method: OECD Test Guideline 471
Result: negative

Carcinogenicity

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

Components:

thifensulfuron-methyl (ISO):

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

tribenuron-methyl (ISO):

Remarks : No significant adverse effects were reported

Carcinogenicity - Assessment : Did not show carcinogenic effects in animal experiments.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

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

Components:

thifensulfuron-methyl (ISO):

Reproductive toxicity - Assessment : Did not show teratogenic effects in animal experiments.

tribenuron-methyl (ISO):

Reproductive toxicity - Assessment : No toxicity to reproduction
Animal testing did not show any effects on fetal development.,
Did not show teratogenic effects in animal experiments.

calcium carbonate:

Effects on fertility	:	Test Type: reproductive and developmental toxicity study Species: Rat, male and female Application Route: Ingestion Method: OECD Test Guideline 422 Result: negative
Effects on fetal development	:	Test Type: Pre-natal Species: Rat Application Route: Oral Method: OECD Test Guideline 414 Result: negative

STOT-single exposure

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

Components:

tribenuron-methyl (ISO):

Assessment	:	The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT-repeated exposure

May cause damage to organs (Thyroid, Nervous system) through prolonged or repeated exposure.

Components:

tribenuron-methyl (ISO):

Target Organs	:	Thyroid, Nervous system
Assessment	:	May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

thifensulfuron-methyl (ISO):

Species	:	Rat
LOAEL	:	ca. 200 mg/kg
Exposure time	:	90 d
Target Organs	:	No specific target organs noted
Symptoms	:	Reduced body weight

tribenuron-methyl (ISO):

Species	:	Rabbit
LOAEL	:	80 mg/kg
Target Organs	:	Thyroid, Nervous system
Assessment	:	The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.
Remarks	:	Increased mortality or reduced survival

calcium carbonate:

Species	:	Rat, male and female
NOAEL	:	1,000 mg/kg
Application Route	:	Ingestion
Exposure time	:	48 d
Method	:	OECD Test Guideline 422

Aspiration toxicity

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

Components:

tribenuron-methyl (ISO):

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

Further information

Product:

Remarks	:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

thifensulfuron-methyl (ISO):

Toxicity to fish	:	LC50 (Salmo gairdneri): 100 mg/l Exposure time: 96 h LC50 (Oncorhynchus mykiss (rainbow trout)): > 250 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 470 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	IC50 (green algae): 0.0159 mg/l Exposure time: 72 h ErC50 (Raphidocelis subcapitata (freshwater green alga)): 1.4 mg/l Exposure time: 72 h EC50 (Lemna minor (duckweed)): 1.3 µg/l
Toxicity to fish (Chronic toxicity)	:	NOEC (Salmo gairdneri): 250 mg/l Exposure time: 28 d NOEC (Oncorhynchus mykiss (rainbow trout)): 10.6 mg/l Exposure time: 21 d
Toxicity to daphnia and other	:	NOEC (Daphnia magna (Water flea)): 100 mg/l

aquatic invertebrates (Chronic toxicity)		Exposure time: 21 d
Toxicity to soil dwelling organisms	:	LC50 (Eisenia fetida (earthworms)): > 2,000 mg/kg
Toxicity to terrestrial organisms	:	LD50 (Anas platyrhynchos (Mallard duck)): > 2,510 mg/kg
		LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm Remarks: Dietary
		LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm
		LD50 (Apis mellifera (bees)): > 7.1 µg/bee End point: Acute oral toxicity
		LD50 (Apis mellifera (bees)): > 100 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.

tribenuron-methyl (ISO):

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 738 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Crustaceans): > 320 mg/l Exposure time: 48 h
		EC50 (Daphnia magna (Water flea)): > 894 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.0208 mg/l Exposure time: 120 h
		EC50 (Lemna gibba (duckweed)): 0.00424 mg/l Exposure time: 14 d
Toxicity to fish (Chronic toxicity)	:	NOEC (Cyprinodon variegatus (sheepshead minnow)): 114 mg/l Exposure time: 21 d Method: OECD Test Guideline 211
		NOEC (Oncorhynchus mykiss (rainbow trout)): 560 mg/l Exposure time: 21 d
Toxicity to daphnia and other aquatic invertebrates (Chron-	:	NOEC (Daphnia magna (Water flea)): 41 mg/l Exposure time: 21 d

ic toxicity)

Toxicity to soil dwelling organisms	:	NOEC (Eisenia fetida (earthworms)): 3.2 mg/kg Exposure time: 56 d
Toxicity to terrestrial organisms	:	LD50 (Colinus virginianus (Bobwhite quail)): > 2,250 mg/kg
		LD50 (Colinus virginianus (Bobwhite quail)): > 5,620 ppm Remarks: Dietary
		LD50 (Anas platyrhynchos (Mallard duck)): > 5,620 ppm Remarks: Dietary
		LD50 (Apis mellifera (bees)): > 98.4 µg/bee Exposure time: 48 h End point: Acute contact toxicity
		LD50 (Apis mellifera (bees)): > 9.1 µg/bee Exposure time: 48 h End point: Acute oral toxicity

Ecotoxicology Assessment

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

sodium dimethylnaphthalenesulphonate:

Toxicity to fish	:	LC50 (Danio rerio (zebra fish)): > 10 - 100 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC10 (Pseudokirchneriella subcapitata (green algae)): 135 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
		EC50 (Pseudokirchneriella subcapitata (green algae)): > 810 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	EC10 (Daphnia magna (Water flea)): > 1 - 10 mg/l Exposure time: 21 d Method: OECD Test Guideline 211

Toxicity to microorganisms : EC10 (Pseudomonas putida): > 100 mg/l
Exposure time: 16.5 h
Method: DIN 38 412 Part 8
Remarks: Based on data from similar materials

Ecotoxicology Assessment

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Toxicity to fish : LC50 (Zebra fish): > 10 - 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

EC10 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : EC10 (Daphnia magna (Water flea)): > 10 - 100 mg/l
Exposure time: 21 d
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

calcium carbonate:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae/aquatic plants : EC10 (Desmodesmus subspicatus (green algae)): > 14 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201

Toxicity to microorganisms : EC50 (activated sludge): > 1,000 mg/l
Exposure time: 3 h

Method: OECD Test Guideline 209

Toxicity to soil dwelling organisms : LC50 (Eisenia fetida (earthworms)): > 1,000 mg/kg
Exposure time: 14 d
Method: OECD Test Guideline 207

Persistence and degradability

Components:

thifensulfuron-methyl (ISO):

Biodegradability : Remarks: Not readily biodegradable.
Primary degradation half-lives vary with circumstances, from a few days to a few weeks in aerobic water and soil.

tribenuron-methyl (ISO):

Biodegradability : Biodegradation: 29.4 %
Exposure time: 28 d

sodium dimethylnaphthalenesulphonate:

Biodegradability : Result: Inherently biodegradable.
Method: OECD Test Guideline 301D

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts:

Biodegradability : Result: Not readily biodegradable.
Remarks: Based on data from similar materials

calcium carbonate:

Biodegradability : Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

Bioaccumulative potential

Components:

thifensulfuron-methyl (ISO):

Bioaccumulation : Bioconcentration factor (BCF): 1
Remarks: Does not bioaccumulate.

tribenuron-methyl (ISO):

Bioaccumulation : Bioconcentration factor (BCF): < 1
Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: -0.38

Mobility in soil

Components:

thifensulfuron-methyl (ISO):

Distribution among environmental compartments	:	Koc: 28.3, log Koc: 1.45 Remarks: Highly mobile in soils
Stability in soil	:	

tribenuron-methyl (ISO):

Distribution among environmental compartments	:	Remarks: Under normal conditions the active ingredient/s is/are of high to intermediate mobility in soil. There is a potential for leaching to groundwater.

Other adverse effects

Product:

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
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. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 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.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tribenuron-methyl, Thifensulfuron-methyl)
Class	:	9
Subsidiary risk	:	ENVIRONM.
Packing group	:	III
Labels	:	9 (ENVIRONM.)
Environmentally hazardous	:	yes

IATA-DGR

UN/ID No.	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (Tribenuron-methyl, Thifensulfuron-methyl)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	956
Packing instruction (passenger aircraft)	:	956
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3077
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Tribenuron-methyl, Thifensulfuron-methyl)
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.

Domestic regulation

49 CFR Road

UN/ID/NA number	:	UN 3077
Proper shipping name	:	Environmentally hazardous substance, solid, n.o.s. (Tribenuron-methyl, Thifensulfuron-methyl)
Class	:	9
Packing group	:	III
Labels	:	CLASS 9
ERG Code	:	171
Marine pollutant	:	yes(Tribenuron-methyl, Thifensulfuron-methyl)
Remarks	:	Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

Remarks	:	49CFR: no dangerous good in non-bulk packaging

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.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

tribenuron-methyl (ISO)	101200-48-0	>= 20 - < 30 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know

D-Glucose, 4-O-β-D-galactopyranosyl-, monohydrate	64044-51-5
tribenuron-methyl (ISO)	101200-48-0
thifensulfuron-methyl (ISO)	79277-27-3
sodium dimethylnaphthalenesulphonate	27178-87-6

Residues, petroleum, catalytic reformer fractionator, sulfonated, polymers with formaldehyde, sodium salts	68425-94-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Permissible Exposure Limits for Chemical Contaminants

calcium carbonate	471-34-1

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 chemical substance(s) exempt from CEPA DSL Inventory requirements. It is regulated as a pesticide subject to Pest Control Products Act (PCPA) requirements. Read the PCPA label, authorized under the Pest Control Products Act, prior to using or handling this pest control product.
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

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

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

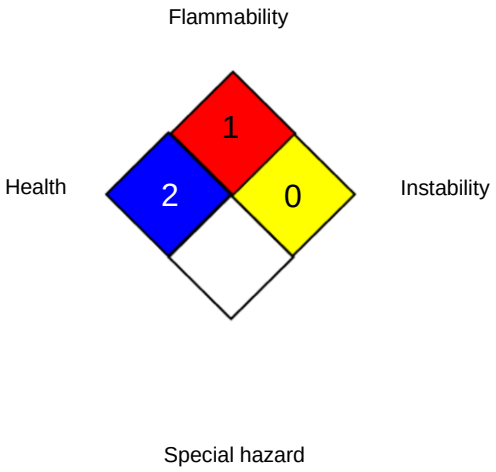
workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

CAUTION
Avoid contact with skin, eyes and clothing., Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals., Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

SECTION 16. OTHER INFORMATION

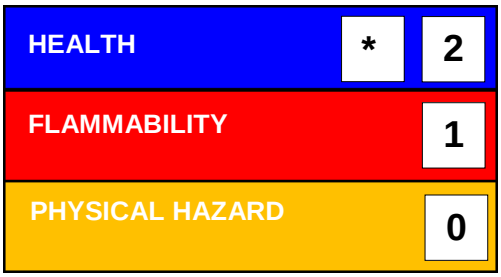
Further information

NFPA 704:



0 No health threat, **1** Slightly Hazardous, **2** Hazardous, **3** Extreme danger, **4** Deadly

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; 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; HMIS - Hazardous Materials Identification System; 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 - Indus-

trial 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; 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

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US / EN

Prepared by:

FMC Corporation

End of Material Safety Data Sheet