

# SAFETY DATA SHEET



## METSULFURON METHYL TECHNICAL

Version 1.1      Revision Date: 18.07.2023      SDS Number: 50000011      Date of last issue: -  
Date of first issue: 08.01.2018

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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : METSULFURON METHYL TECHNICAL

Other means of identification : METHYL 2-[(4-METHOXY-6-METHYL-1,3,5-TRIAZIN-2-YL)CARBAMOYL]SULFAMOYL}BENZOATE

#### Manufacturer or supplier's details

Company : FMC Corporation

Address : 2929 WALNUT ST  
PHILADELPHIA PA 19104  
USA

Telephone : (215) 299-6000

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

Emergency telephone : 022 6704 5504/5404  
000-800-100-7141 (CHEMTREC)

Medical Emergency Number : 022 6704 5504/5404

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

Recommended use : To be used as an active ingredient in herbicides only.

Restrictions on use : Use as recommended by the label.

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### 2. HAZARDS IDENTIFICATION

#### Manufacture, Storage and Import of Hazardous Chemicals Rules 1989

##### Classification

Not classified as hazardous according to criteria laid down in Part I of Schedule-1.

##### GHS Classification

Acute toxicity (Dermal) : Category 5

Short-term (acute) aquatic hazard : Category 1

Long-term (chronic) aquatic hazard : Category 1

##### GHS label elements

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- Hazard pictograms :
- Signal Word : Warning
- Hazard Statements : H313 May be harmful in contact with skin.  
H410 Very toxic to aquatic life with long lasting effects.
- Precautionary Statements : **Prevention:**  
P273 Avoid release to the environment.  
**Response:**  
P302 + P352 + P317 IF ON SKIN: Wash with plenty of water.  
Get medical help.  
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 : Substance
- CAS-No. : 74223-64-6

#### Components

Chemical name	CAS-No.	Concentration (% w/w)
metsulfuron-methyl (ISO)	74223-64-6	>= 90 - <= 100

### 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 : If on clothes, remove clothes.  
If on skin, rinse well with water.  
Wash off with soap and plenty of water.  
Get medical attention if irritation develops and persists.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.

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- Protect unharmed eye.  
Keep eye wide open while rinsing.  
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.  
Do not induce vomiting without medical advice.
- Most important symptoms and effects, both acute and delayed : May be harmful in contact with skin.
- Notes to physician : Treat symptomatically.
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### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Dry chemical, CO<sub>2</sub>, water spray or regular 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 : Nitrogen oxides (NO<sub>x</sub>)  
Sulfur oxides  
Carbon oxides  
Thermal decomposition can lead to release of irritating gases and vapors.
- 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.
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### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.  
Avoid dust formation.  
Avoid breathing dust.
- 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 : Neutralize with chalk, alkali solution or ammonia.  
Pick up and transfer to properly labeled containers without
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creating dust.  
Keep in suitable, closed containers for disposal.

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**7. HANDLING AND STORAGE**

- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.
- Advice on safe handling : 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.
- Materials to avoid : Do not store near acids.
- Further information on storage stability : Keep in a dry place.  
No decomposition if stored and applied as directed.

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**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**
**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

- Respiratory protection : Use respiratory protection (dust mask) unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
- 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.

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Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state : solid

Form : Crystalline solid, powder

Color : off-white

Odor : slight, ester-like

Odor Threshold : not determined

Melting point/range : 158 °C

Boiling point/boiling range : Decomposition

Flash point : not determined

Flammability (solid, gas) : Not highly flammable

Upper explosion limit / Upper flammability limit : not determined

Lower explosion limit / Lower flammability limit : 0.146 g/l

Vapor pressure : not determined

Relative vapor density : not determined

Relative density : not determined

Density : 1.47 g/cm<sup>3</sup>

Bulk density : 330 kg/m<sup>3</sup> packed

Solubility(ies)  
Water solubility : 0.55 g/l (25 °C)  
pH: 5

2.79 g/l (25 °C)  
pH: 7

213 g/l (25 °C)

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pH: 9

Solubility in other solvents : 0.584 mg/l (25 °C)  
Solvent: n-hexane

11.1 g/l (25 °C)  
Solvent: ethyl acetate

Viscosity  
Viscosity, kinematic : not determined

Explosive properties : Not explosive

Oxidizing properties : The product is not oxidizing.

Minimum ignition energy : 0.05 mJ

Particle size : not determined

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### 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.  
Dust may form explosive mixture in air.

Conditions to avoid : Heat, flames and sparks.  
dust formation

Incompatible materials : Avoid strong acids, bases, and oxidizers.

Hazardous decomposition products : Stable under recommended storage conditions.

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### 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

May be harmful in contact with skin.

#### Components:

#### **metsulfuron-methyl (ISO):**

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg  
Method: US EPA Test Guideline OPP 81-1

Acute inhalation toxicity : LC50 (Rat): > 5.3 mg/l  
Exposure time: 4 h  
Test atmosphere: dust/mist  
Method: US EPA Test Guideline OPPTS 870.1300  
Assessment: The substance or mixture has no acute inhalation toxicity

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Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg  
Method: US EPA Test Guideline OPP 81-2

### **Skin corrosion/irritation**

Not classified based on available information.

#### **Components:**

##### **metsulfuron-methyl (ISO):**

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

### **Serious eye damage/eye irritation**

Not classified based on available information.

#### **Components:**

##### **metsulfuron-methyl (ISO):**

Species : Rabbit  
Method : EPA OPP 81-4  
Result : slight irritation

### **Respiratory or skin sensitization**

#### **Skin sensitization**

Not classified based on available information.

#### **Respiratory sensitization**

Not classified based on available information.

#### **Components:**

##### **metsulfuron-methyl (ISO):**

Test Type : Maximization Test  
Routes of exposure : Skin contact  
Species : Guinea pig  
Method : US EPA Test Guideline OPPTS 870.2600  
Result : Not a skin sensitizer.

### **Germ cell mutagenicity**

Not classified based on available information.

#### **Components:**

##### **metsulfuron-methyl (ISO):**

Genotoxicity in vitro : Test Type: Ames test  
Metabolic activation: with and without metabolic activation  
Result: negative

Test Type: Chromosome aberration test in vitro  
Metabolic activation: Metabolic activation  
Result: positive

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Genotoxicity in vivo      :    Test Type: Micronucleus test  
Species: Mouse  
Result: negative

Germ cell mutagenicity - Assessment      :    Animal testing did not show any mutagenic effects.

**Carcinogenicity**

Not classified based on available information.

**Components:****metsulfuron-methyl (ISO):**

Species                      :    Rat, male and female  
Exposure time              :    104 weeks  
NOAEL                        :    500 ppm  
Result                        :    negative

Species                      :    Mouse, male and female  
Exposure time              :    18 month(s)  
NOAEL                        :    5,000 ppm  
Result                        :    negative

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

**Reproductive toxicity**

Not classified based on available information.

**Components:****metsulfuron-methyl (ISO):**

Effects on fertility              :    Test Type: Two-generation study  
Species: Rat, male and female  
Application Route: Oral  
Result: negative

Effects on fetal development      :    Test Type: Embryo-fetal development  
Species: Rabbit, female  
Application Route: Ingestion  
Symptoms: Maternal effects.  
Result: negative

Test Type: Embryo-fetal development  
Species: Rat, female  
Application Route: Ingestion  
Symptoms: Maternal effects.  
Result: negative

Reproductive toxicity - Assessment      :    Weight of evidence does not support classification for reproductive toxicity



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### STOT-single exposure

Not classified based on available information.

### STOT-repeated exposure

Not classified based on available information.

### Repeated dose toxicity

#### Components:

##### **metsulfuron-methyl (ISO):**

Species : Rat, male and female  
NOEL : 1000 ppm  
Application Route : Oral - feed  
Exposure time : 90 days  
Symptoms : Reduced body weight

### Aspiration toxicity

Not classified based on available information.

### Neurological effects

#### Components:

##### **metsulfuron-methyl (ISO):**

No neurotoxicity observed in animal studies.

### Further information

#### Product:

Remarks : No data available

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## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Components:

##### **metsulfuron-methyl (ISO):**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 113 mg/l  
Exposure time: 96 h  
Method: OECD Test Guideline 203

LC50 (Poecilia reticulata (guppy)): > 100 mg/l  
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 120 mg/l  
Exposure time: 48 h

Toxicity to algae/aquatic plants : NOEC ( Lemna minor (duckweed)): 0.16 µg/l  
Exposure time: 14 d

ErC50 ( Anabaena flos-aquae (cyanobacterium)): 0.1134 mg/l  
Exposure time: 72 h

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IC50 ( *Selenastrum capricornutum* (green algae)): 0.045 mg/l  
Exposure time: 72 h

ErC50 ( *Myriophyllum spicatum*): 0.23 µg/l

ErC50 ( *Lemna gibba* (gibbous duckweed)): 0.57 µg/l

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC: 68 mg/l  
Exposure time: 21 d  
Species: *Oncorhynchus mykiss* (rainbow trout)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 0.5 mg/l  
Exposure time: 21 d  
Species: *Daphnia magna* (Water flea)

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : NOEC: 6 mg/kg  
Exposure time: 56 d  
Species: *Eisenia fetida* (earthworms)

Toxicity to terrestrial organisms : LD50: > 100 µg/bee  
End point: Acute contact toxicity  
Species: *Apis mellifera* (bees)

LD50: > 91.72 µg/bee  
End point: Acute oral toxicity  
Species: *Apis mellifera* (bees)

LD50: > 2,510 mg/kg  
Species: *Anas platyrhynchos* (Mallard duck)

### Persistence and degradability

#### Components:

##### **metsulfuron-methyl (ISO):**

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

### Bioaccumulative potential

#### Components:

##### **metsulfuron-methyl (ISO):**

Bioaccumulation : Species: *Lepomis macrochirus* (Bluegill sunfish)  
Exposure time: 28 d

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

Partition coefficient: n-octanol/water : log Pow: -1.7 (25 °C)  
pH: 7

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Additional ecological information : See product label for additional application instructions relating to environmental precautions.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.

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## 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.  
Do not re-use empty containers.  
Packaging that is not properly emptied must be disposed of as the unused product.  
Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## 14. TRANSPORT INFORMATION

### International Regulations

#### UNRTDG

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

#### IATA-DGR

UN/ID No. : UN 3077  
Proper shipping name : Environmentally hazardous substance, solid, n.o.s.

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(Metsulfuron-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.

(Metsulfuron-methyl)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : yes

### Transport in bulk according to IMO instruments

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.

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## 15. REGULATORY INFORMATION

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

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

TCSI : On the inventory, or in compliance with the inventory  
TSCA : Product contains substance(s) not listed on TSCA inventory.  
AIIIC : Not in compliance with the inventory  
DSL : This product contains the following components that are not on the Canadian DSL nor NDSL.  
metsulfuron-methyl (ISO)  
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

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IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
TECI	:	Not in compliance with the inventory

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### 16. OTHER INFORMATION

Revision Date	:	18.07.2023
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#### 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 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

#### Disclaimer

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lates only to the specified product designated and may not be applicable where such product is used in combination with any other materials or in any process. The user is responsible for determining whether the product is fit for a particular purpose and suitable for the user's conditions and methods of use. Since the conditions and methods of use are beyond the control of FMC Corporation, FMC Corporation expressly disclaims any and all liability as to any results obtained or arising from any use of the products or reliance on such information.

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