

# Safety Data Sheet

## Frequency Herbicide

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### 1. Identification

#### Product identifier used on the label

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

Recommended use\*: crop protection product, herbicide

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

Company:  
BASF Agricultural Solutions US LLC  
2 TW Alexander Drive  
Research Triangle Park, NC 27713  
USA

Telephone: +1 973 245-6000

#### Emergency telephone number

#### 24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Substance number:	104631
EPA Registration number:	7969-281
Molecular formula:	C16 H17 N3 O5 S
Chemical family:	phenyl pyrazole, derivative
Synonyms:	topramezone (active ingredient)

### 2. Hazards Identification

#### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

#### Classification of the product

Repr.	1B (unborn child)	Reproductive toxicity
Aquatic Acute	1	Hazardous to the aquatic environment - acute

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Aquatic Chronic

1

Hazardous to the aquatic environment - chronic

### Label elements

Pictogram:



Signal Word:  
Danger

Hazard Statement:

H360 May damage the unborn child.  
H400 Very toxic to aquatic life.  
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P273 Avoid release to the environment.  
P280 Wear protective gloves, protective clothing and eye protection or face protection.  
P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

P308 + P313 IF exposed or concerned: Get medical attention.  
P391 Collect spillage.

Precautionary Statements (Storage):

P405 Store locked up.

Precautionary Statements (Disposal):

P501 Dispose of contents/container in accordance with local regulations.

## 3. Composition / Information on Ingredients

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

Topramezone

CAS Number: 210631-68-8

Content (W/W): 29.7 %

Synonym: Methanone, [3-(4,5-dihydro-3-isoxazolyl)-2-methyl-4-(methylsulfonyl)phenyl](5-hydroxy-1-methyl-1H-pyrazol-4-yl)-

## 4. First-Aid Measures

### Description of first aid measures

#### General advice:

First aid providers should wear personal protective equipment to prevent exposure. Remove contaminated clothing. Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. In case of intoxication, call a

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poison control center or physician for treatment advice, taking the packaging or the label of the product.

### **If inhaled:**

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary.

### **If on skin:**

Rinse skin immediately with plenty of water for 15 - 20 minutes.

### **If in eyes:**

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. If irritation develops, seek medical attention.

### **If swallowed:**

Immediate medical attention required. Do not induce vomiting unless told to by a poison control center or doctor. Do not give solids or liquids. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

## **Most important symptoms and effects, both acute and delayed**

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

## **Indication of any immediate medical attention and special treatment needed**

### Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## **5. Fire-Fighting Measures**

### **Extinguishing media**

Suitable extinguishing media:  
foam, dry powder, carbon dioxide, water spray

Unsuitable extinguishing media for safety reasons:  
water jet

### **Special hazards arising from the substance or mixture**

Hazards during fire-fighting:  
carbon monoxide, carbon dioxide, Hydrogen chloride, nitrogen oxides, sulfur oxides, halogenated compounds

The substances/groups of substances mentioned can be released in case of fire.

### **Advice for fire-fighters**

Protective equipment for fire-fighting:  
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

### **Further information:**

Evacuate area of all unnecessary personnel. Contain contaminated water/firefighting water. Do not allow to enter drains or waterways.

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### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

Take appropriate protective measures. Clear area. Shut off source of leak only under safe conditions. Extinguish sources of ignition nearby and downwind. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

#### Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater. Contain contaminated water/firefighting water.

#### Methods and material for containment and cleaning up

Dike spillage. Pick up with suitable absorbent material. Place into suitable containers for reuse or disposal in a licensed facility. Spilled substance/product should be recovered and applied according to label rates whenever possible. If application of spilled substance/product is not possible, then spills should be contained, solidified, and placed in suitable containers for disposal. After decontamination, spill area can be washed with water. Collect wash water for approved disposal.

### 7. Handling and Storage

#### Precautions for safe handling

RECOMMENDATIONS ARE FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS. PESTICIDE APPLICATORS & WORKERS must refer to the Product Label and Directions for Use attached to the product for Agricultural Use Requirements in accordance with the EPA Worker Protection Standard 40 CFR part 170. Ensure adequate ventilation. Provide good ventilation of working area (local exhaust ventilation if necessary). Keep away from sources of ignition - No smoking. Keep container tightly sealed. Protect contents from the effects of light. Protect against heat. Protect from air. Handle and open container with care. Do not open until ready to use. Once container is opened, content should be used as soon as possible. Avoid aerosol formation. Avoid dust formation. Provide means for controlling leaks and spills. Do not return residues to the storage containers. Follow label warnings even after container is emptied. The substance/ product may be handled only by appropriately trained personnel. Avoid all direct contact with the substance/product. Avoid contact with the skin, eyes and clothing. Avoid inhalation of dusts/mists/vapours. Wear suitable personal protective clothing and equipment.

Protection against fire and explosion:

The relevant fire protection measures should be noted. Fire extinguishers should be kept handy. Avoid all sources of ignition: heat, sparks, open flame. Sources of ignition should be kept well clear. Avoid extreme heat. Keep away from oxidizable substances. Electrical equipment should conform to national electric code. Ground all transfer equipment properly to prevent electrostatic discharge. Electrostatic discharge may cause ignition.

#### Conditions for safe storage, including any incompatibilities

Segregate from incompatible substances. Segregate from foods and animal feeds. Segregate from textiles and similar materials.

Further information on storage conditions: Keep only in the original container in a cool, dry, well-ventilated place away from ignition sources, heat or flame. Protect containers from physical damage. Protect against contamination. The authority permits and storage regulations must be observed.

Protect from temperatures below: 0 °C

The product can crystallize below the limit temperature.

Protect from temperatures above: 40 °C

Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

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### 8. Exposure Controls/Personal Protection

**Users of a pesticidal product should refer to the product label for personal protective equipment requirements.**

No occupational exposure limits known.

#### **Advice on system design:**

Whenever possible, engineering controls should be used to minimize the need for personal protective equipment.

#### **Personal protective equipment**

#### **RECOMMENDATIONS FOR MANUFACTURING, COMMERCIAL BLENDING, AND PACKAGING WORKERS:**

##### **Respiratory protection:**

Wear respiratory protection if ventilation is inadequate. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. For situations where the airborne concentrations may exceed the level for which an air purifying respirator is effective, or where the levels are unknown or Immediately Dangerous to Life or Health (IDLH), use NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

##### **Hand protection:**

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

##### **Eye protection:**

Safety glasses with side-shields. Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

##### **Body protection:**

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

##### **General safety and hygiene measures:**

Wear long sleeved work shirt and long work pants in addition to other stated personal protective equipment. Work place should be equipped with a shower and an eye wash. Handle in accordance with good industrial hygiene and safety practice. Personal protective equipment should be decontaminated prior to reuse. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Store work clothing separately. Hands and/or face should be washed before breaks and at the end of the shift. No eating, drinking, smoking or tobacco use at the place of work. Keep away from food, drink and animal feeding stuffs.

### 9. Physical and Chemical Properties

Form:	liquid
Odour:	aromatic
Odour threshold:	Not determined due to potential health hazard by inhalation.
Colour:	off-white
pH value:	approx. 2.5 - 4.5 ( 1 %(m), 20 °C)

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Boiling point:	approx. 100 °C	
Flash point:	No flash point - Measurement made up to the boiling point.	
Lower explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.	
Autoignition:	425 °C	(Directive 92/69/EEC, A.15)
SADT:	> 75 °C	
Vapour pressure:	approx. 23.3 hPa ( 20 °C)	
Density:	Information applies to the solvent. approx. 1.12 g/cm <sup>3</sup> ( 20 °C) approx. 9.4303 Lb/USg ( 68 °F)	
Vapour density:	not applicable	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Thermal decomposition:	210 °C, 330 kJ/kg Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
Viscosity, dynamic:	approx. 78 mPa.s ( 20 °C)	
Solubility in water:	dispersible	
Molar mass:	363.4 g/mol	
Evaporation rate:	not applicable	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

## 10. Stability and Reactivity

### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:

Corrosive effects to metal are not anticipated.

Oxidizing properties:

Not an oxidizer.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

The product is chemically stable.

Hazardous polymerization will not occur. No hazardous reactions if stored and handled as prescribed/indicated.

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### Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid electro-static charge. Avoid prolonged storage. Avoid contamination. Avoid prolonged exposure to extreme heat. Avoid extreme temperatures.

### Incompatible materials

strong acids, strong bases, strong oxidizing agents

### Hazardous decomposition products

Decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated., Prolonged thermal loading can result in products of degradation being given off.

Thermal decomposition:

210 °C, 3 K/min

Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.

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## 11. Toxicological information

### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

### Acute Toxicity/Effects

#### Acute toxicity

Assessment of acute toxicity: Slightly toxic after single ingestion. Slightly toxic after short-term skin contact. Slightly toxic after short-term inhalation.

#### Oral

Type of value: LD50

Species: rat (male/female)

Value: > 2,000 mg/kg (OECD Guideline 423)

No mortality was observed.

#### Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 5.8 mg/l (OECD Guideline 403)

Exposure time: 4 h

An aerosol was tested.

No mortality was observed.

#### Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 4,000 mg/kg (OECD Guideline 402)

No mortality was observed.

#### Assessment other acute effects

Assessment of STOT single:

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Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

The product has not been tested. The statement has been derived from the properties of the individual components.

### Irritation / corrosion

Assessment of irritating effects: May cause slight irritation to the skin. May cause moderate but temporary irritation to the eyes.

### Skin

May cause slight irritation to the skin.

### Eye

May cause moderate but temporary irritation to the eyes.

### Sensitization

Assessment of sensitization: The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. There is no evidence of a skin-sensitizing potential.

### Mouse Local Lymph Node Assay (LLNA)

Species: mouse

Result: Skin sensitizing effects were not observed in animal studies.

Method: OECD Guideline 429

### Aspiration Hazard

No aspiration hazard expected. The product has not been tested. The statement has been derived from the properties of the individual components.

## **Chronic Toxicity/Effects**

### Repeated dose toxicity

Assessment of repeated dose toxicity: The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: Topramezone technical*

*Assessment of repeated dose toxicity: Adaptive effects were observed after repeated exposure in animal studies.*

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### Genetic toxicity

Assessment of mutagenicity: The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

### Carcinogenicity

Assessment of carcinogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: Topramezone technical*

*Assessment of carcinogenicity: When given in high doses, the substance was carcinogenic in animal studies. Based on its mechanism of action, a carcinogenic potential is not expected after exposure to low doses.*

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### Reproductive toxicity



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Assessment of reproduction toxicity: The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

### Teratogenicity

Assessment of teratogenicity: The product has not been tested. The statement has been derived from the properties of the individual components.

### *Information on: Topramezone*

*Assessment of teratogenicity: The results of animal studies gave indication of a developmental toxic/teratogenic effects with high doses.*

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### Medical conditions aggravated by overexposure

Individuals with pre-existing diseases of the respiratory system, skin or eyes may have increased susceptibility to excessive exposures.

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## 12. Ecological Information

### **Toxicity**

#### Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to fish. There is a high probability that the product is not acutely harmful to aquatic invertebrates. Very toxic (acute effect) to aquatic plants.

#### Toxicity to fish

LC50 (96 h) 8.71 mg/l, *Oncorhynchus mykiss*

#### Aquatic invertebrates

EC50 (48 h) 12.1 mg/l, *Daphnia magna*

#### Aquatic plants

EC50 (7 d) 0.0008 mg/l (growth rate), *Lemna gibba* (OECD guideline 221)

#### Chronic toxicity to aquatic invertebrates

No observed effect concentration (35 d) 0.12 mg/l, *Mysidopsis bahia*

#### Toxicity to fish

##### *Information on: Topramezone*

*LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 84/449/EEC, C.1, static)*

*Nominal concentration.*

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#### Aquatic invertebrates

##### *Information on: Topramezone*

*EC50 (48 h) > 100 mg/l, *Daphnia magna**

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#### Aquatic plants

##### *Information on: Topramezone*

*EC50 (96 h) 67.7 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201)*

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### Assessment of terrestrial toxicity

With high probability not acutely harmful to terrestrial organisms.

### **Bioaccumulative potential**

#### Bioaccumulation potential

*Information on: Topramezone technical*

*Bioconcentration factor: 0.69 (42 d), Lepomis macrochirus (OPPTS 850.1730 (EPA Guideline))  
Does not significantly accumulate in organisms.*

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### **Mobility in soil**

#### Assessment transport between environmental compartments

The product has not been tested. The statement has been derived from the properties of the individual components.

*Information on: Topramezone technical*

*Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.*

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### **Additional information**

Other ecotoxicological advice:

The ecological data given are those of the active ingredient. Do not release untreated into natural waters.

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## **13. Disposal considerations**

### **Waste disposal of substance:**

Pesticide wastes are regulated. Improper disposal of excess pesticide, spray mix or rinsate is a violation of federal law. If pesticide wastes cannot be disposed of according to label instructions, contact the State Pesticide or Environmental Control Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

### **Container disposal:**

Rinse thoroughly at least three times (triple rinse) in accordance with EPA recommendations. Consult state or local disposal authorities for approved alternative procedures such as container recycling. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

### **RCRA:**

This product is not regulated by RCRA.

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## **14. Transport Information**

**Land transport**  
USDOT

Not classified as a dangerous good under transport regulations

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### Sea transport

#### IMDG

Hazard class: 9  
Packing group: III  
ID number: UN 3082  
Hazard label: 9, EHSM  
Marine pollutant: YES  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains TOPRAMEZONE)

### Air transport

#### IATA/ICAO

Hazard class: 9  
Packing group: III  
ID number: UN 3082  
Hazard label: 9, EHSM  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains TOPRAMEZONE)

### Further information

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3 Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

## 15. Regulatory Information

### Federal Regulations

#### Registration status:

Crop Protection TSCA, US released / listed

Chemical TSCA, US blocked / not listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

**Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:**

### BASF Risk Assessment, CA Prop. 65:

Based on an evaluation of the product's composition and the use(s), this product does not require a California Proposition 65 Warning.

#### NFPA Hazard codes:

Health: 1 Fire: 1 Reactivity: 1 Special:

**Labeling requirements under FIFRA**

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

**CAUTION:**

May cause moderate but temporary irritation to the eyes.

HARMFUL IF SWALLOWED.

HARMFUL IF ABSORBED THROUGH SKIN.

KEEP OUT OF REACH OF CHILDREN.

Avoid contact with the skin, eyes and clothing.

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## 16. Other Information

**SDS Prepared by:**

BASF Agricultural Solutions US NA Product Regulations

SDS Prepared on: 2021/08/31

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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END OF DATA SHEET