



**Material Safety Data Sheet**

**OPTION® CORN HERBICIDE**

MSDS Number: 102000001421

MSDS Version 2.0

Revision Date: 08/17/2010

**SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION**

**Product name** OPTION® CORN HERBICIDE  
**MSDS Number** 102000001421  
**EPA Registration No.** 264-685

Bayer CropScience  
 2 T.W. Alexander Drive  
 Research Triangle PK, NC 27709  
 USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)  
 For Product Information call: 1-866-99BAYER (1-866-992-2937)

**SECTION 2. HAZARDS IDENTIFICATION**

*NOTE: Please refer to Section 11 for detailed toxicological information.*

**Emergency Overview** Caution! Hazard to humans and domestic animals. Harmful if swallowed. Moderate eye irritation. Avoid contact with skin, eyes and clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

**Physical State** dry, free flowing, water dispersible granules

**Odor** weak aromatic

**Appearance** beige

**Exposure routes** Eye contact, Skin contact, Inhalation, Ingestion

**Immediate Effects**

**Eye** Moderate eye irritation. Avoid contact with eyes.

**Skin** Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin and clothing.

**Ingestion** Harmful if swallowed. Do not take internally.

**Inhalation** Avoid breathing dust or spray mist.

**Chronic or Delayed Long-Term** This product or its components may have target organ effects.

**Potential Environmental Effect** This product may cause adverse effects on non-target plants.



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**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Foramsulfuron	173159-57-4	35.00
Isoxadifen-ethyl	163520-33-0	
Kaolin	1332-58-7	

**SECTION 4. FIRST AID MEASURES**

<b>General</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<b>Eye</b>	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
<b>Skin</b>	Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately. Take off contaminated clothing and shoes immediately.  If symptoms persist, call a physician. Wash off immediately with soap and plenty of water.
<b>Ingestion</b>	Rinse out mouth and give water in small sips to drink. Call a physician or poison control center immediately. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person.
<b>Inhalation</b>	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
<b>Notes to physician Treatment</b>	Treat symptomatically. There is no specific antidote.

**SECTION 5. FIRE FIGHTING MEASURES**

<b>Flash point</b>	not applicable
<b>Explosiveness</b>	Not explosive 92/69/EEC, A.14 / OECD 113
<b>Fire and Explosion Hazards</b>	Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.



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In the event of fire the following may be released:

- Carbon monoxide (CO)
- nitrogen oxides (NOx)
- Sulphur oxides
- Oxides of phosphorus

**Suitable extinguishing media** Water spray, Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

**Unsuitable extinguishing media** High volume water jet

**Fire Fighting Instructions** Evacuate personnel to safe areas. Keep out of smoke. Fight fire from upwind position. Avoid contact with spilled product or contaminated surfaces. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat.

Do not allow run-off from fire fighting to enter drains or water courses.

Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

**Personal precautions** Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Remove all sources of ignition.

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Rinse spill area with small amount of soapy water. Clean contaminated floors and objects thoroughly, observing environmental regulations. Collect and transfer the product into a properly labelled and tightly closed container.

**Additional advice** Information regarding safe handling, see section 7. Information regarding personal protective equipment, see section 8. Information regarding waste disposal, see section 13.

Do not allow to enter soil, waterways or waste water canal.

**SECTION 7. HANDLING AND STORAGE**

**Handling procedures** Use only in area provided with appropriate exhaust ventilation. Avoid dust formation.

**Storing Procedures** Store in original container. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food,



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and feed.

**Work/Hygienic Procedures**

Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Smoking, eating and drinking should be prohibited in the application area.

Remove Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**General Protection**

Follow all label instructions. Train employees in safe use of the product.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water. Keep and wash PPE separately from other laundry.

**Eye/Face Protection**

Chemical resistant goggles must be worn.

**Hand protection**

Chemical resistant nitrile rubber gloves

**Body Protection**

Wear long-sleeved shirt and long pants and shoes plus socks.

**Respiratory protection**

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Exposure Limits**

Foramsulfuron	173159-57-4	OES BCS*	TWA	10 mg/m3
Isoxadifen-ethyl	163520-33-0	OES BCS*	TWA	1 mg/m3
Kaolin	1332-58-7	ACGIH	TWA	2 mg/m3
		NIOSH	REL	5 mg/m3
		NIOSH	REL	10 mg/m3
		US CA OEL	TWA PEL	2 mg/m3
		TX ESL	ST ESL	20 ug/m3
		TX ESL	AN ESL	2 ug/m3
		TX ESL	ST ESL	20 ug/m3
		TX ESL	AN ESL	2 ug/m3
			TWA	10 mg/m3
			TWA	5 mg/m3

\*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"



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#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	beige
<b>Physical State</b>	dry, free flowing, water dispersible granules
<b>Odor</b>	weak aromatic
<b>pH</b>	6.0 - 7.0 (10 %) at 23 °C
<b>Bulk density</b>	600 - 700 kg/m <sup>3</sup>
<b>Water solubility</b>	dispersible
<b>Minimum Explosion Concentration</b>	90g/cm <sup>3</sup>

#### SECTION 10. STABILITY AND REACTIVITY

<b>Hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
<b>Chemical Stability</b>	Stable under recommended storage conditions.

#### SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, foramsulfuron, as well as, the herbicide safener, isoxadifen-ethyl.

<b>Acute oral toxicity</b>	male rat: LD50: 4,157 mg/kg female rat: LD50: 2,788 mg/kg
<b>Acute dermal toxicity</b>	rat: LD50: > 5,000 mg/kg
<b>Acute inhalation toxicity</b>	rat: LC50: > 5.3 mg/l Exposure time: 4 h Determined in the form of dust.  rat: LC50: > 21.2 mg/l Exposure time: 1 h Determined in the form of dust. Extrapolated from the 4 hr LC50.
<b>Skin irritation</b>	rabbit: Moderate skin irritation.



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**Eye irritation** rabbit: Mild eye irritation.

**Sensitisation** guinea pig: Sensitising

**Chronic toxicity** Foramsulfuron was non-toxic at doses of ~1000 mg/kg/day in chronic dietary studies in rats, mice and dogs.

Isxadifen-ethyl caused kidney and/or liver effects in chronic studies in rats and dogs.

**Assessment Carcinogenicity**

Foramsulfuron was not carcinogenic in lifetime feeding studies in rats and mice.

Isxadifen-ethyl was not carcinogenic in oncogenicity studies in rats and mice.

**ACGIH**

Kaolin

1332-58-7

Group A4

**NTP**

None.

**IARC**

None.

**OSHA**

None.

**Reproductive toxicity** **REPRODUCTION**  
Foramsulfuron was not a reproductive toxicant in a two-generation study in rats.

Isxadifen-ethyl was not considered a primary reproductive toxicant. Decreased pup body weights occurred causing a delay in sexual maturation, however, these effects were considered secondary to maternal toxicity.

**DEVELOPMENTAL TOXICITY**

Foramsulfuron was not a developmental toxicant in rats and rabbits.

Isxadifen-ethyl was not a developmental toxicant in rats and rabbits.

**Neurotoxicity** Foramsulfuron did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using laboratory animals.

Isxadifen-ethyl did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using mice, rats, rabbits and dogs.

**Mutagenicity** Foramsulfuron does not possess significant genotoxicity activity based on the overall weight of evidence from a battery of in vitro and in vivo tests.

Isxadifen-ethyl was not genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

**SECTION 12. ECOLOGICAL INFORMATION**



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**Toxicity to fish** Rainbow trout (*Oncorhynchus mykiss*)  
 LC50: 3.3 mg/l  
 Exposure time: 96 h

**Toxicity to aquatic plants** *Selenastrum capricornutum*  
 EC50: 16.1 mg/l  
 Exposure time: 72 h

**Acute Toxicity to Aquatic Invertebrates** Water flea (*Daphnia magna*)  
 EC50: > 100 mg/l  
 Exposure time: 48 h

**Toxicity to other organisms** Acute exposure  
*Colinus virginianus* (Bobwhite quail)  
 LD50: > 2,000 mg/kg  
 The value mentioned relates to the active ingredient.

Acute exposure  
*Anas platyrhynchos* (Mallard duck)  
 LD50: > 2,000 mg/kg  
 The value mentioned relates to the active ingredient.

Long Term Exposure/Reproduction  
*Colinus virginianus* (Bobwhite quail)  
 NOEC: 1,000 ppm  
 The value mentioned relates to the active ingredient.

Long Term Exposure/Reproduction  
*Anas platyrhynchos* (Mallard duck)  
 NOEC: 1,000 ppm  
 The value mentioned relates to the active ingredient.

**Environmental precautions** Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

Do not apply when weather conditions favor runoff or drift. Do not allow to get into surface water, drains and ground water.



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**SECTION 13. DISPOSAL CONSIDERATIONS**

<b>General Disposal Guidance</b>	Do not contaminate water, food, or feed by disposal. Dispose in accordance with all local, state/provincial and federal regulations. Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility. Follow advice on product label and/or leaflet.
<b>Container Disposal</b>	Triple rinse containers. Puncture container to avoid re-use. Dispose of empty container in a sanitary landfill or by incineration, or, if allowed by State/Provincial and local authorities, by burning. If burned, stay out of smoke. Follow advice on product label and/or leaflet.
<b>RCRA Information</b>	Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

**SECTION 14. TRANSPORT INFORMATION**

<b>CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN-Number	<b>3077</b>
Class	9
Packaging group	III
Marine pollutant	Marine Pollutant
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ISOXADIFEN-ETHYL MIXTURE)
<b>IATA</b>	
UN-Number	<b>3077</b>
Class	9
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ISOXADIFEN-ETHYL MIXTURE )

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

Freight Classification: COMPOUNDS, TREE OR WEED KILLING, N.O.I. other than poison, HAVING A DENSITY OF 20 LBS OR GREATER PER CUBIC FOOT

**SECTION 15. REGULATORY INFORMATION**





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**US Federal Regulations**

**TSCA list**

Isoxadifen-ethyl 163520-33-0  
Kaolin 1332-58-7

**US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)**

Isoxadifen-ethyl 163520-33-0

**SARA Title III - Section 302 - Notification and Information**

None.

**SARA Title III - Section 313 - Toxic Chemical Release Reporting**

None.

**US States Regulatory Reporting**

**CA Prop65**

This product does not contain any substances known to the State of California to cause cancer.

This product does not contain any substances known to the State of California to cause reproductive harm.

**US State Right-To-Know Ingredients**

Kaolin 1332-58-7 IL, MN

**Canadian Regulations**

**Canadian Domestic Substance List**

Kaolin 1332-58-7

**Environmental**

**CERCLA**

None.

**Clean Water Section 307 Priority Pollutants**

None.

**Safe Drinking Water Act Maximum Contaminant Levels**

None.

**International Regulations**

**European Inventory of Existing Commercial Substances (EINECS)**

Kaolin 1332-58-7

**SECTION 16. OTHER INFORMATION**

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Reactivity - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard



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Reason for Revision: Updated due to new system and numbering scheme. Updated for general editorial purposes.

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