

# SAFETY DATA SHEET



## CORVUS® HERBICIDE

Version 1.0 / USA  
102000031432

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Revision Date: 06/16/2017  
Print Date: 06/16/2017

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### Product identifier

Trade name CORVUS® HERBICIDE

Product code (UVP) 84945242

SDS Number 102000031432

EPA Registration No. 264-1066

#### Relevant identified uses of the substance or mixture and uses advised against

Use Herbicide

Restrictions on use See product label for restrictions.

#### Information on supplier

Supplier Bayer CropScience  
2 T.W. Alexander Drive  
Research Triangle PK, NC 27709  
United States

Responsible Department Email: SDSINFO.BCS-NA@bayer.com

#### Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577

Product Information Telephone Number 1-866-99BAYER (1-866-992-2937)

### SECTION 2: HAZARDS IDENTIFICATION

#### Classification in accordance with regulation HCS 29CFR §1910.1200

Reproductive toxicity: Category 2

#### Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

#### Hazard statements

Suspected of damaging fertility or the unborn child.

#### Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/ protective clothing/ eye protection/ face protection.

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IF exposed or concerned: Get medical advice/ attention.  
Store locked up.  
Dispose of contents/container in accordance with local regulation.

### Hazards Not Otherwise Classified (HNOC)

No physical hazards not otherwise classified.  
No health hazards not otherwise classified.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Thiencarbazone-methyl	317815-83-1	7.6
Isoxaflutole	141112-29-0	19.0
Cyprosulfamide	221667-31-8	12.5
Glycerine	56-81-5	9.0
Tristyrylphenol polyethylenglycol phosphoric acid ester	114535-82-9	3.9
2-Ethylhexanole	104-76-7	1.0

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
<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>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.
<b>Eye contact</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>Ingestion</b>	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. 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. Do not leave victim unattended.

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

**Symptoms** To date no symptoms are known.

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

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<b>Treatment</b>	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.
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### SECTION 5: FIREFIGHTING MEASURES

#### Extinguishing media

<b>Suitable</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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<b>Unsuitable</b>	High volume water jet
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<b>Special hazards arising from the substance or mixture</b>	Dangerous gases are evolved in the event of a fire.
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#### Advice for firefighters

<b>Special protective equipment for firefighters</b>	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
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<b>Further information</b>	Keep out of smoke. Fight fire from upwind position. 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.
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<b>Flash point</b>	> 100 °C
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<b>Auto-ignition temperature</b>	No data available
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<b>Lower explosion limit</b>	No data available
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<b>Upper explosion limit</b>	No data available
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<b>Explosivity</b>	Not explosive
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### SECTION 6: ACCIDENTAL RELEASE MEASURES

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

<b>Precautions</b>	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.
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#### Methods and materials for containment and cleaning up

<b>Methods for cleaning up</b>	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.
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<b>Additional advice</b>	Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.
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**Reference to other sections** Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

### SECTION 7: HANDLING AND STORAGE

#### Precautions for safe handling

**Advice on safe handling** Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

**Advice on protection against fire and explosion** Keep away from heat and sources of ignition.

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.  
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

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

**Requirements for storage areas and containers** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Thiocarbazono-methyl	317815-83-1	10 mg/m <sup>3</sup> (TWA)		OES BCS*
Isoxaflutole	141112-29-0	0.6 mg/m <sup>3</sup> (TWA)		OES BCS*
Cyprosulfamide	221667-31-8	10 mg/m <sup>3</sup> (TWA)		OES BCS*
Glycerine (Respirable fraction.)	56-81-5	5 mg/m <sup>3</sup> (PEL)	02 2006	OSHA Z1
Glycerine (Total dust.)	56-81-5	15 mg/m <sup>3</sup> (PEL)	02 2006	OSHA Z1
Glycerine (Total dust and mist.)	56-81-5	10 mg/m <sup>3</sup> (TWA)	06 2008	TN OEL
Glycerine	56-81-5	5 mg/m <sup>3</sup>	06 2008	TN OEL

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(Respirable fraction and dust or fume.)		(TWA)		
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\*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

### Exposure controls

#### Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

<b>Respiratory protection</b>	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.
<b>Hand protection</b>	Chemical resistant nitrile rubber gloves
<b>Eye protection</b>	Tightly fitting safety goggles
<b>Skin and body protection</b>	Wear long-sleeved shirt and long pants and shoes plus socks.
<b>General protective measures</b>	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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	white to light beige
<b>Physical State</b>	suspension
<b>Odor</b>	slight
<b>Odour Threshold</b>	No data available
<b>pH</b>	1.5 - 3.0 at 100 % (23 °C)
<b>Vapor Pressure</b>	No data available
<b>Vapor Density (Air = 1)</b>	No data available
<b>Density</b>	1.20 g/cm <sup>3</sup> at 20 °C
<b>Evaporation rate</b>	No data available
<b>Boiling Point</b>	No data available
<b>Melting / Freezing Point</b>	No data available
<b>Water solubility</b>	dispersible
<b>Minimum Ignition Energy</b>	Not applicable
<b>Decomposition temperature</b>	Not applicable
<b>Partition coefficient: n-octanol/water</b>	Not applicable

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<b>Viscosity</b>	300 - 500 mPa.s at 20 °C Velocity gradient 20 /s 100 - 250 mPa.s at 20 °C Velocity gradient 100 /s
<b>Flash point</b>	> 100 °C
<b>Auto-ignition temperature</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Explosivity</b>	Not explosive

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### SECTION 10: STABILITY AND REACTIVITY

#### Reactivity

<b>Thermal decomposition</b>	Not applicable
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	No hazardous reactions when stored and handled according to prescribed instructions.
<b>Conditions to avoid</b>	Extremes of temperature and direct sunlight.
<b>Incompatible materials</b>	No data available
<b>Hazardous decomposition products</b>	No decomposition products expected under normal conditions of use.

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### SECTION 11: TOXICOLOGICAL INFORMATION

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

#### Immediate Effects

<b>Eye</b>	Moderate eye irritation.
<b>Skin</b>	Harmful if absorbed through skin.
<b>Ingestion</b>	Harmful if swallowed.

#### Information on toxicological effects

<b>Acute oral toxicity</b>	LD50 (Rat) > 5,000 mg/kg
<b>Acute inhalation toxicity</b>	LC50 (Rat) > 2.6 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration.
<b>Acute dermal toxicity</b>	LD50 (Rat) > 2,000 mg/kg
<b>Skin irritation</b>	No skin irritation (Rabbit)
<b>Eye irritation</b>	Mild eye irritation. (Rabbit)

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**Sensitisation** Non-sensitizing. (Mouse)  
OECD Test Guideline 429, local lymph node assay (LLNA)

### Assessment STOT Specific target organ toxicity – repeated exposure

Thiencarbazone-methyl did not cause specific target organ toxicity in experimental animal studies.  
Isoxaflutole caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver, Thyroid. The observed effects do not appear to be relevant for humans.  
Cyprosulfamide did not cause specific target organ toxicity in experimental animal studies.

### Assessment mutagenicity

Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.  
Isoxaflutole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.  
Cyprosulfamide was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

### Assessment carcinogenicity

Thiencarbazone-methyl was not carcinogenic in a lifetime feeding study in rats. Thiencarbazone-methyl caused at high dose levels an increased incidence of tumours in mice in the following organ(s): urinary bladder. The tumours seen with Thiencarbazone-methyl were caused through the chronic irritation due to the presence of bladder stones.  
Isoxaflutole caused at high dose levels an increased incidence of tumours in the following organ(s): Liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.  
Cyprosulfamide caused at high dose levels an increased incidence of tumours in the following organ(s): urinary bladder, Kidney. The tumours seen with Cyprosulfamide were caused through the chronic irritation due to the presence of bladder stones. The mechanism that triggers tumours in rodents is not relevant for the low exposures encountered under normal use conditions.

### ACGIH

None.

### NTP

None.

### IARC

None.

### OSHA

None.

### Assessment toxicity to reproduction

Thiencarbazone-methyl did not cause reproductive toxicity in a two-generation study in rats.  
Isoxaflutole did not cause reproductive toxicity in a two-generation study in rats.  
Cyprosulfamide did not cause reproductive toxicity in a two-generation study in rats.

### Assessment developmental toxicity

Thiencarbazone-methyl did not cause developmental toxicity in rats and rabbits.  
Isoxaflutole caused developmental toxicity only at dose levels toxic to the dams. Isoxaflutole caused a delayed ossification of foetuses. The developmental effects seen with Isoxaflutole are related to maternal toxicity.  
Cyprosulfamide did not cause developmental toxicity in rats and rabbits.

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### Further information

Only acute toxicity studies have been performed on the formulated product.  
The non-acute information pertains to the active ingredient(s).

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## SECTION 12: ECOLOGICAL INFORMATION

<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l Exposure time: 96 h
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) > 100 mg/l Exposure time: 48 h
<b>Toxicity to aquatic plants</b>	EC50 (Raphidocelis subcapitata (freshwater green alga)) 25.3 mg/l Exposure time: 72 h  (Lemna gibba (gibbous duckweed)) 0.0165 mg/l Exposure time: 168 h
<b>Biodegradability</b>	Thiencarbazone-methyl: Not rapidly biodegradable Isoxaflutole: Not rapidly biodegradable Cyprosulfamide: Not rapidly biodegradable
<b>Koc</b>	Thiencarbazone-methyl: Koc: 100 Isoxaflutole: Koc: 112 Cyprosulfamide: Koc: 8 - 75
<b>Bioaccumulation</b>	Thiencarbazone-methyl: Does not bioaccumulate. Isoxaflutole: Bioconcentration factor (BCF) 11 Does not bioaccumulate. Cyprosulfamide: Does not bioaccumulate.
<b>Mobility in soil</b>	Thiencarbazone-methyl: Moderately mobile in soils Isoxaflutole: Moderately mobile in soils Cyprosulfamide: Mobile in soils
<b>Environmental precautions</b>	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. Drift or runoff from treated areas may adversely affect non-target plants. Apply this product as specified on the label.

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### Waste treatment methods

<b>Product</b>	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. Dispose in accordance with all local, state/provincial and federal regulations.
<b>Contaminated packaging</b>	Triple rinse containers. Empty residue into application equipment. 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.

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### SECTION 14: TRANSPORT INFORMATION

<b>49CFR</b>	Not dangerous goods / not hazardous material
<b>IMDG</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ISOXAFLUTOLE SOLUTION)
<b>IATA</b>	
UN number	<b>3082</b>
Class	9
Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ISOXAFLUTOLE SOLUTION )

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.

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

### SECTION 15: REGULATORY INFORMATION

**EPA Registration No.** 264-1066

#### US Federal Regulations

##### TSCA list

Cyprosulfamide	221667-31-8
Glycerine	56-81-5
Tristyrylphenol polyethylenglycol phosphoric acid ester	114535-82-9
2-Ethylhexanole	104-76-7

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

Cyprosulfamide 221667-31-8

#### 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 contains a chemical known to the State of California to cause cancer.

Isoxaflutole 141112-29-0

#### US State Right-To-Know Ingredients

Glycerine	56-81-5	MN, RI
2-Ethylhexanole	104-76-7	CT

#### Canadian Regulations

##### Canadian Domestic Substance List

None.

#### Environmental

##### CERCLA

None.

##### Clean Water Section 307 Priority Pollutants

None.

##### Safe Drinking Water Act Maximum Contaminant Levels

None.

#### EPA/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 required on the pesticide label:

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**Signal word:** Caution!

**Hazard statements:** Harmful if swallowed or absorbed through skin.  
Moderate eye irritation.  
Avoid contact with skin, eyes and clothing.

### SECTION 16: OTHER INFORMATION

#### Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

#### NFPA 704 (National Fire Protection Association):

Health - 1      Flammability - 1      Instability - 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

**Reason for Revision:** New Safety Data Sheet due to change in numbering scheme.

**Revision Date:** 06/16/2017

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