

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

1/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

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

Product identifier

Trade name	DERIGO™ HERBICIDE
Product code (UVP)	80555180
SDS Number	102000025797
EPA Registration No.	432-1533

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 Environmental Science A division of Bayer CropScience LP 5000 Centregreen Way, Suite 400 Cary, NC 27513 USA
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	1-800-331-2867

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Carcinogenicity: Category 1B
Combustible dust

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Danger

Hazard statements

May cause cancer.

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

2/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

May form combustible dust concentrations in air.
Conduct Dust Hazard Assessment (DHA).

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.
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
Foramsulfuron	173159-57-4	24.0
Iodosulfuron-methyl-sodium	144550-36-7	2.4
Thiencarbazone-methyl	317815-83-1	10.0
Sulfonated aromatic polymer, sodium salt	68425-94-5	13.5
Crystalline quartz (respirable)	14808-60-7	0.4

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	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.
Skin contact	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.
Eye contact	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.
Ingestion	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

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

3/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Symptoms	No symptoms known or expected.
Indication of any immediate medical attention and special treatment needed	
Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Water spray, Carbon dioxide (CO ₂), Foam, Sand
Unsuitable	High volume water jet

Special hazards arising from the substance or mixture In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Hydrogen iodide (HI), Carbon monoxide (CO), Nitrogen oxides (NO_x), Sulphur oxides

Advice for firefighters

Special protective equipment for firefighters In the event of fire and/or explosion do not breathe fumes. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Further information Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Flash point	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Dust explosion class	capable of causing a dust explosion (modified Hartmann tube, ignition with glow spiral)

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

4/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice 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.

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 Use only in area provided with appropriate exhaust ventilation.

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. Keep away from direct sunlight.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Foramsulfuron	173159-57-4	10 mg/m ³ (TWA)		OES BCS*
Iodosulfuron-methyl-sodium	144550-36-7	1 mg/m ³ (TWA)		OES BCS*

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

5/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Thiocarbazono-methyl	317815-83-1	10 mg/m3 (TWA)		OES BCS*
Crystalline quartz (respirable) (Respirable fraction.)	14808-60-7	0.025 mg/m3 (TWA)	02 2012	ACGIH
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.05 mg/m3 (REL)	2016	NIOSH
Crystalline quartz (respirable)	14808-60-7	0.05 mg/m3 (TWA)	03 2016	OSHA
Crystalline quartz (respirable)	14808-60-7	0.025 mg/m3 (OSHA_ACT)	03 2016	OSHA
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.05 mg/m3 (PEL)	03 2016	OSHA Z1
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.050 mg/m3 (TWA)	01 2019	TN OEL
Crystalline quartz (respirable) (Respirable dust.)	14808-60-7	0.05 mg/m3 (TWA PEL)	10 2016	US CA OEL
Crystalline quartz (respirable) (Respirable.)	14808-60-7	2.4millions of particles per cubic foot of air (TWA)	2000	Z3
Crystalline quartz (respirable) (Respirable.)	14808-60-7	0.1 mg/m3 (TWA)	2000	Z3

*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.

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.

Hand protection

Chemical resistant nitrile rubber gloves

Eye protection

Safety glasses with side-shields

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

6/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Skin and body protection	Wear long-sleeved shirt and long pants and shoes plus socks.
General protective measures	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

Information on basic physical and chemical properties

Form	water-dispersible granules
Colour	beige
Odour	weak
Odour Threshold	No data available
pH	8.5 - 9.5 (1 %) (23 °C) (deionized water)
Melting point/range	No data available
Boiling Point	No data available
Flash point	No data available
Flammability	The product is not highly flammable.
Auto-ignition temperature	No data available
Ignition temperature	375 °C
Minimum ignition energy	> 1,000 mJ
Self-accelerating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Dust explosion class	capable of causing a dust explosion (modified Hartmann tube, ignition with glow spiral)
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	No data available
Bulk density	ca. 0.73 g/ml (bulk density tapped)
Water solubility	dispersible

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

7/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Partition coefficient: n-octanol/water	Foramsulfuron: log Pow: 0.60 Iodosulfuron-methyl-sodium: log Pow: -0.7 Thiencarbazone-methyl: log Pow: -0.13
Viscosity, dynamic	No data available
Viscosity, kinematic	No data available
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
Dust content	nearly dust-free
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Ingestion
Immediate Effects	
Eye	No eye irritation
Skin	No skin irritation
Ingestion	Harmful if swallowed.
Information on toxicological effects	
Acute oral toxicity	LD50 (Rat) > 2,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 5.02 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol.

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

8/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Acute dermal toxicity	LD50 (Rat) > 2,000 mg/kg
Skin corrosion/irritation	No skin irritation (Rabbit)
Serious eye damage/eye irritation	No eye irritation (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

Foramsulfuron: Based on available data, the classification criteria are not met.
Iodosulfuron-methyl-sodium: Based on available data, the classification criteria are not met.
Thiencarbazone-methyl: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Foramsulfuron did not cause specific target organ toxicity in experimental animal studies.
Iodosulfuron-methyl-sodium did not cause specific target organ toxicity in experimental animal studies.
Thiencarbazone-methyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Foramsulfuron was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.
Iodosulfuron-methyl-sodium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Foramsulfuron was not carcinogenic in lifetime feeding studies in rats and mice.
Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.
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.

ACGIH

Crystalline quartz (respirable)	14808-60-7	Group A2
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NTP

Crystalline quartz (respirable)	14808-60-7
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IARC

Crystalline quartz (respirable)	14808-60-7	Overall evaluation: 1
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OSHA

None.

Assessment toxicity to reproduction

Foramsulfuron did not cause reproductive toxicity in a two-generation study in rats.
Iodosulfuron-methyl-sodium did not cause reproductive toxicity in a two-generation study in rats.
Thiencarbazone-methyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

9/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Foramsulfuron did not cause developmental toxicity in rats and rabbits.
Iodosulfuron-methyl-sodium did not cause developmental toxicity in rats and rabbits.
Thiencarbazone-methyl did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

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

Further information

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

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 100 mg/l Exposure time: 96 h
Toxicity to aquatic invertebrates	EC50 (Daphnia (water flea)) > 1,000 mg/l Exposure time: 48 h
Toxicity to aquatic plants	IC50 (Raphidocelis subcapitata (freshwater green alga)) 5.71 mg/l Growth rate; Exposure time: 72 h
	IC50 (Lemna gibba (gibbous duckweed)) 0.00296 mg/l Growth rate; Exposure time: 7 d
Biodegradability	Foramsulfuron: Not rapidly biodegradable Iodosulfuron-methyl-sodium: Not rapidly biodegradable Thiencarbazone-methyl: Not rapidly biodegradable
Koc	Foramsulfuron: Koc: 38 - 151 Iodosulfuron-methyl-sodium: Koc: 45 Thiencarbazone-methyl: Koc: 100
Bioaccumulation	Foramsulfuron: Does not bioaccumulate. Iodosulfuron-methyl-sodium: Does not bioaccumulate. Thiencarbazone-methyl: Does not bioaccumulate.
Mobility in soil	Foramsulfuron: Mobile in soils Iodosulfuron-methyl-sodium: Mobile in soils Thiencarbazone-methyl: Moderately mobile in soils
Results of PBT and vPvB assessment	
PBT and vPvB assessment	Foramsulfuron: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB). Iodosulfuron-methyl-sodium: This substance is not considered to be

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

10/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).
Thiocarbazono-methyl: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

Additional ecological information

No other effects to be mentioned.

Environmental precautions

Do not allow to get into surface water, drains and ground water.
Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product

Dispose in accordance with all local, state/provincial and federal regulations.
Follow container label instructions for disposal of wastes generated during use in compliance with the product label.

Contaminated packaging

Do not re-use empty containers.
Triple rinse containers.
Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities.
If burned, stay out of smoke.
Follow advice on product label and/or leaflet.

RCRA Information

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

49CFR

Not dangerous goods / not hazardous material

IMDG

UN number	3077
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM MIXTURE)

IATA

UN number	3077
Class	9

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

11/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Packaging group	III
Environm. Hazardous Mark	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (IODOSULFURON-METHYL-SODIUM 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 WEEDKILLING, N.O.I., other than poison; HAVING A DENSITY OF GREATER THAN 20 LBS. PER CUBIC FOOT
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SECTION 15: REGULATORY INFORMATION

EPA Registration No. 432-1533

US Federal Regulations

TSCA list

Kaolin	1332-58-7
Sulfonated aromatic polymer, sodium salt	68425-94-5
Polyvinylpyrrolidone	9003-39-8

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

No export notification needs to be made.

SARA Title III - Section 302 - Notification and Information

Not applicable.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

None.

US States Regulatory Reporting

CA Prop65

WARNING: This product contains a chemical known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Crystalline quartz (respirable)	14808-60-7
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WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Methanol	67-56-1	Developmental toxin.
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US State Right-To-Know Ingredients

Kaolin	1332-58-7	MN, RI
Polyvinylpyrrolidone	9003-39-8	CA

Environmental

CERCLA

None.

Clean Water Section 307(a)(1)

None.

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

12/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Safe Drinking Water Act Maximum Contaminant Levels

Yes

Methanol 67-56-1

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:

Signal word: Caution!

Hazard statements: Harmful if swallowed or absorbed through skin.
Causes moderate eye irritation.

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

SAFETY DATA SHEET



DERIGO™ HERBICIDE

Version 2.0 / USA
102000025797

13/13
Revision Date: 10/14/2020
Print Date: 10/15/2020

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 5: Fire Fighting Measures. Section 8: Exposure Controls / Personal Protection. Section 12. Ecological information. Reviewed and updated for general editorial purposes.

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