



Material Safety Data Sheet
DEFINE™ DF HERBICIDE

MSDS Number: 102000006667
 MSDS Version 1.0
 Revision Date: 03/02/2007

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name DEFINE™ DF HERBICIDE
MSDS Number 102000006667
PCP Registration No. 28526

Bayer CropScience Inc
 #100 - 3131 - 114th Avenue SE
 Calgary, AB T2Z 3X2
 Canada

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
 For Product Information call: 1-888-283-6847

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Flufenacet	142459-58-3	60.00
Quartz (Silica, Crystalline)	14808-60-7	0.703

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Danger! Poison. Keep out of the reach of children. Fatal if swallowed. Harmful if inhaled or absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes and clothing. Avoid breathing dust.

Physical State granular solid
Odor pungent
Appearance yellow-brown to brown
Routes of Exposure Eye contact, Inhalation, Skin contact, Skin Absorption
Immediate Effects
Eye May cause mild irritation to eyes.
Skin May cause slight irritation.



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Chronic or Delayed Long-Term

This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal.

Medical Conditions Aggravated by Exposure

No specific medical conditions are known which may be aggravated by exposure to this product. Pulmonary and respiratory diseases may be aggravated by exposure to respirable crystalline silica.

SECTION 4. FIRST AID MEASURES

General

When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

Eye

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.

Skin

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.

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.

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.

Notes to Physician Treatment

There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5. FIRE FIGHTING MEASURES

Flash point not applicable

Autoignition Temperature not applicable

lower flammability limit not applicable



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Upper Flammability Limit	not applicable
Explosiveness	no data available
Fire and Explosion Hazards	Accumulation of fine dust may entail the risk of a dust explosion in the presence of air.
Suitable Extinguishing Media	Water, Carbon dioxide (CO ₂), Dry chemical, Foam
Fire Fighting Instructions	Evacuate personnel to safe areas. Avoid contact with spilled product or contaminated surfaces. Do not allow run-off from fire fighting to enter drains or water courses. Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Contain the spread of the fire-fighting media. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Dust Explosion Class	no data available

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Do not breathe dust. Use personal protective equipment.
Methods for Cleaning Up	Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup. Collect and transfer the product into a properly labelled and tightly closed container. Contaminated soil may have to be removed and disposed.
Additional Advice	Do not allow product to contact vegetation.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Handle and open container in a manner as to prevent spillage. Avoid contact with skin, eyes and clothing. Use only in area provided with appropriate exhaust ventilation. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Care should be taken to avoid formation of dust from abraded granules.
Storing Procedures	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.



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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.

Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Before removing gloves clean them with soap and water. Remove Personal Protective Equipment (PPE) immediately after handling this product. Wash thoroughly and put on clean clothing.

Min/Max Storage Temperatures Do not transport or store below -18 °C / -0 °F
 Do not transport or store above 38 °C / 100 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection Follow all label instructions. Train employees in safe use of the product. Do not breathe dust.

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 Safety glasses with side-shields

Hand Protection Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride

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

Quartz (Silica, Crystalline)	14808-60-7	OEL (QUE)	TWA	0.1 mg/m3
		Form of exposure		Respirable dust.
		CAD AB OEL	TWA	0.1 mg/m3
		Form of exposure		Respirable particles.
		CAD BC OEL	TWA	0.05 mg/m3
		Form of exposure		Respirable.
		CAD ON OEL	TWA	0.10 mg/m3
		Form of exposure		Respirable fraction.


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SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	yellow-brown to brown
Physical State	granular solid
Odor	pungent
pH	4 - 5 (10 %) at 20 °C
Vapor Pressure	at 20 °C
Bulk Density	32-36 lbs/cu. ft.
Evaporation rate	no data available
Boiling Point	no data available
Water solubility	dispersible
Decomposition Temperature	no data available
Partition coefficient (n-octanol/water)	no data available

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Temperatures above 70 °C.
Incompatibility	Bases
Hazardous Decomposition Products	no data available
Hazardous Reactions	Hydrolyses in alkaline medium. Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on this product as formulated. The non-acute information pertains to the technical-grade active ingredient, flufenacet.

Acute Oral Toxicity	male rat: LD50: 1,365 mg/kg
	female rat: LD50: approx. 371 mg/kg



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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 apply when weather conditions favor runoff or drift. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Drift or runoff from treated areas may adversely affect non-target plants.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance Follow advice on product label and/or leaflet. Dispose in accordance with all local, state/provincial and federal regulations.

Container Disposal Follow advice on product label and/or leaflet. Triple rinse containers. Puncture container to avoid re-use.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not regulated for transportation

FREIGHT CLASSIFICATION:
Compounds, Tree or Weedkilling, N.O.I., other than poison, having a density of 20 LBS. or greater per cubic foot

TDG (Canada):
Not regulated for road or rail.

SECTION 15. REGULATORY INFORMATION

PCP Registration No. 28526

US Federal Regulations

TSCA list

Quartz (Silica, Crystalline) 14808-60-7

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
None.

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.

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

US State Right-To-Know Ingredients

Quartz (Silica, Crystalline) 14808-60-7 IL, MA, MN, RI

Canadian Regulations

Canadian Domestic Substance List

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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)

Quartz (Silica, Crystalline) 14808-60-7

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Reactivity - 1 Others - none

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

Reason to Revise: New Material Safety Data Sheet.

Prepared by the HSE Department of Bayer CropScience Inc. (306)-721-0310.

Revision Date: 03/02/2007

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