



Material Safety Data Sheet

SENCOR® DF 75% DRY FLOWABLE HERBICIDE

MSDS Number: 102000007121
 MSDS Version 1.1
 Revision Date: 03/15/2007

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name SENCOR® DF 75% DRY FLOWABLE HERBICIDE
MSDS Number 102000007121
EPA Registration No. 264-738

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. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Metribuzin	21087-64-9	75.00
Sodium aluminium silicate	1344-00-9	1.00
Quartz (Silica, Crystalline)	14808-60-7	0.40

SECTION 3. HAZARDS IDENTIFICATION

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

Emergency Overview Caution! Harmful if swallowed, inhaled or absorbed through the skin. Moderate eye irritation. Avoid contact with skin, eyes and clothing.

Physical State granular
Odor musty
Appearance off-white
Routes of Exposure Skin contact, Skin Absorption, Eye contact
Immediate Effects
 Eye Moderate eye irritation.
 Skin May be harmful if absorbed through skin.



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Ingestion	May be harmful if swallowed.
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. As with all materials which can cause upper respiratory tract irritation, persons with a history of asthma, emphysema, or hyperreactive airways disease may be more susceptible to overexposure. 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 Signs and Symptoms	breathing difficulties sedation
Treatment	There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.



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SECTION 5. FIRE FIGHTING MEASURES

Flash point	not applicable
Suitable Extinguishing Media	Water, Dry chemical
Fire Fighting Instructions	Keep out of smoke. Fight fire from upwind position. Cool closed containers/ tanks exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Avoid dust formation. Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.
Methods for Cleaning Up	Clean contaminated floors and objects thoroughly, observing environmental regulations. Collect and transfer the product into a properly labelled and tightly closed container. Use dry absorbent material such as clay granules to absorb and collect wash solution for proper disposal. Contaminated soil may have to be removed and disposed.
Additional Advice	Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact vegetation. Information regarding personal protective equipment, see section 8.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. For personal protection see section 8.
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.
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 contaminated clothing immediately and dispose of safely. Wash thoroughly and put on clean clothing.



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

Min/Max Storage Temperatures Do not transport or store above 38 °C / 100 °F
The 30-day storage temperature average must not exceed the recommended maximum.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

- General Protection** Train employees in safe use of the product. Follow all label instructions. 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 (barrier laminate, butyl rubber, nitrile rubber or Viton)
- 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

Metribuzin	21087-64-9	ACGIH	TWA	5 mg/m3
		NIOSH	REL	5 mg/m3
		OSHA Z1A	TWA	5 mg/m3
		US CA OEL	TWA PEL	5 mg/m3
Quartz (Silica, Crystalline)	14808-60-7	ACGIH	TWA	0.05 mg/m3
		Form of exposure	Respirable fraction.	
		ACGIH NIC	TWA	0.025 mg/m3
		Form of exposure	Respirable fraction.	
		NIOSH	REL	0.05 mg/m3
		Form of exposure	Respirable dust.	
		OSHA Z1A	TWA	0.1 mg/m3
		Form of exposure	Respirable dust.	
		Z3	TWA	2.4 millions of particles per cubic foot of air
		Form of exposure	Respirable.	
Remarks	The value is calculated from a specified equation using a value of 100%. Values lower than 100% will give higher exposure limits. See regulation for specific equation.			



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		Z3	TWA	0.1 mg/m3
		Form of exposure		Respirable.
		Remarks		The value is calculated from a specified equation using a value of 100%. Values lower than 100% will give higher exposure limits. See regulation for specific equation.
		Z3	TWA	0.3 mg/m3
		Form of exposure		Total dust.
		Remarks		The value is calculated from a specified equation using a value of 100%. Values lower than 100% will give higher exposure limits. See regulation for specific equation.
		US CA OEL	TWA PEL	0.1 mg/m3
		Form of exposure		Respirable dust.
		US CA OEL	TWA PEL	0.3 mg/m3
		Form of exposure		Total dust.
		OSHA Z1	PEL	5 mg/m3
		Form of exposure		Respirable fraction.
		OSHA Z1	PEL	15 mg/m3
		Form of exposure		Total dust.
Sodium aluminium silicate	1344-00-9	ACGIH	TWA	2 mg/m3
		Expressed as		as Al
		NIOSH	REL	2 mg/m3
		Expressed as		as Al
		OSHA Z1A	TWA	2 mg/m3
		Expressed as		as Al
		US CA OEL	TWA PEL	2 mg/m3

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	off-white
Physical State	granular
Odor	musty
Bulk Density	33 - 37 lbs/cu.ft.
Water solubility	dispersible



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Decomposition Temperature no data available

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid Sustained temperatures above 37.8 °C (100 °F).

Incompatibility Strong bases
Ketones
Aldehydes

Hazardous Decomposition Products Thermal decomposition
Amines
Carbon dioxide (CO₂)
mercaptans
Sulphur oxides

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 active ingredient, metribuzin.

Acute Oral Toxicity male rat: LD50: 2,365 mg/kg
female rat: LD50: 1,449 mg/kg

Acute Dermal Toxicity male/female combined rat: LD50: > 2,000 mg/kg
male/female combined rabbit: LD50: > 5,000 mg/kg

Acute Inhalation Toxicity male/female combined rat: LC50: > 19.36 mg/l
Exposure time: 1 h
Determined in the form of a respirable fine dust.
Extrapolated from the 4 hr LC50.
male/female combined rat: LC50: > 4.84 mg/l
Exposure time: 4 h
Determined in the form of a respirable fine dust.

Skin Irritation rabbit: Mild skin irritation.

Eye Irritation rabbit: Moderate eye irritation.

Sensitization guinea pig: Non-sensitizing.



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Chronic Toxicity Metribuzin caused liver, kidney, thyroid and/or testicular effects in chronic dietary studies in rats and dogs. In addition, anemia was observed in dogs.

Assessment Carcinogenicity

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

ACGIH

Metribuzin	21087-64-9	Group A4
Quartz (Silica, Crystalline)	14808-60-7	Group A2

NTP

Quartz (Silica, Crystalline)	14808-60-7
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IARC

Quartz (Silica, Crystalline)	14808-60-7	Overall evaluation: 1
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OSHA

None.

Reproductive & Developmental Toxicity

REPRODUCTION: Metribuzin was not a reproductive toxicant in a 2-generation reproductive study in rats.

DEVELOPMENTAL TOXICITY: Metribuzin was not a primary developmental toxicant in laboratory animals. Developmental effects were observed only at doses that caused maternal toxicity.

Neurotoxicity

Metribuzin has been tested in acute and subchronic neurotoxicity screening studies in rats. Transient neurobehavioral effects (e.g., decreased motor activity) were observed in the acute study. Neuropathological changes were not observed in either study.

Mutagenicity

Metribuzin was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

Environmental Precautions

Apply this product as specified on the label. 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.



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SECTION 13. DISPOSAL CONSIDERATIONS

- General Disposal Guidance** Follow container label instructions for disposal of wastes generated during use in compliance with the product label. Dispose in accordance with all local, state/provincial and federal regulations.
- Container Disposal** Follow advice on product label and/or leaflet. Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Consult state and local regulations regarding the proper disposal of container.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:
Not regulated for Domestic Surface Transportation

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

SECTION 15. REGULATORY INFORMATION

EPA Registration No. 264-738

US Federal Regulations

TSCA list

- Sodium aluminium silicate 1344-00-9
- 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

- Metribuzin 21087-64-9 1.0%

US States Regulatory Reporting

CA Prop65

This product contains a chemical known to the State of California to cause cancer.
Quartz (Silica, Crystalline) 14808-60-7

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

US State Right-To-Know Ingredients

- Metribuzin 21087-64-9 IL, MN, NJ, RI
- Sodium aluminium silicate 1344-00-9 CA, IL, MN
- Quartz (Silica, Crystalline) 14808-60-7 IL, MA, MN, RI



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Canadian Regulations

Canadian Domestic Substance List

Sodium aluminium silicate	1344-00-9
Quartz (Silica, Crystalline)	14808-60-7

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)

Metribuzin	21087-64-9
Sodium aluminium silicate	1344-00-9
Quartz (Silica, Crystalline)	14808-60-7

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 3 Reactivity - 1 Others - none

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

Reason to Revise: Updated for general editorial purposes. Updated Section 11: Toxicological Information.

Revision Date: 03/15/2007

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