



DuPont™ Hyvar® X Herbicide

Version 2.1

Revision Date 05/20/2010

Ref. 130000023988

This SDS adheres to the standards and regulatory requirements of the United States and may not meet the regulatory requirements in other countries.

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : DuPont™ Hyvar® X Herbicide
Tradename/Synonym : B10048052
DPX-N0976 80WP
BROMACIL (5-bromo-3-sec-butyl-6-methyluracil)

MSDS Number : 130000023988

Product Use : Herbicide

Manufacturer : DuPont
1007 Market Street
Wilmington, DE 19898

Product Information : 1-800-441-7515 (outside the U.S. 1-302-774-1000)
Medical Emergency : 1-800-441-3637 (outside the U.S. 1-302-774-1139)
Transport Emergency : CHEMTREC: 1-800-424-9300 (outside the U.S. 1-703-527-3887)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Caution

Harmful if swallowed or absorbed through the skin . Causes moderate eye irritation. Avoid contact with skin, eyes and clothing.

Potential Health Effects

This section includes potential acute adverse effects which could occur if this material is not used according to the label.

Skin : There are no reports of human skin sensitization.

Eyes : May cause: Irritation with discomfort, pain, redness, or visual impairment.

Inhalation



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Quartz : Occupational health effects due to inhalation of mineral dusts incorporating crystalline silica (quartz, cristobalite, tridymite), crystalline silicates (kaolin, talc) graphite or coal. Gross overexposure may cause: Breathing difficulties, Fever, Cough, Lung damage, Cancer, May be fatal if inhaled in large quantities..

Repeated exposure
Quartz : DuPont has classified this material as a probable human carcinogen. May cause cancer after repeated inhalation of spray or dust. Adverse effects from repeated inhalation may include: Fibrosis with altered lung function or difficulty breathing

Carcinogenicity Material	IARC	NTP	OSHA
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Quartz	1	XX	
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Quartz : DuPont has classified this material as a probable human carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Bromacil	314-40-9	80 %
Inert Ingredients		20 %

Includes percentages of the following:

Quartz	14808-60-7	<1 %
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SECTION 4. FIRST AID MEASURES

- Skin contact : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- 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 poison control center or doctor for treatment advice.
- Inhalation : No specific intervention is indicated as the compound is not likely to be hazardous. Consult a physician if necessary.
- Ingestion : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. 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.
- General advice : Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
For medical emergencies involving this product, call toll free 1-800-441-3637. See Label for Additional Precautions and Directions for Use.
Never give anything by mouth to an unconscious person.

SECTION 5. FIRE-FIGHTING MEASURES

- Flammable Properties
- Flash point : not applicable
- Lower explosion limit : 0.11 vol%
- Fire and Explosion Hazard : Under severe dusting conditions, this material may form explosive mixtures in air.
- Suitable extinguishing media : Water spray, Dry chemical, Foam, Carbon dioxide (CO₂)
- Unsuitable extinguishing media : High volume water jet, (contamination risk)



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Firefighting Instructions : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
(on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers / tanks with water spray.
Dike off area to prevent runoff and contamination of water sources.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Spill Cleanup : Sweep up and shovel into suitable containers for disposal. If spill area is on ground near valuable plants or trees, remove top 2 inches of soil after initial cleanup.

Accidental Release Measures : Prevent material from entering sewers, waterways, or low areas. Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel) : Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing.

Handling (Physical Aspects) : Keep away from heat and sources of ignition.

Storage : Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in original container. Keep tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls : Use only with adequate ventilation. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR



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170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Personal protective equipment

Respiratory protection : Mixers and loaders must also wear a non-powered air purifying respirator equipped with a N, R, or P series filter (NIOSH approved number prefix 84A) for mixing and loading.

Skin and body protection : Applicators and other handlers must wear:
 Long sleeved shirt and long pants
 Chemical resistant gloves made of any waterproof material
 Shoes plus socks
 PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is:
 Coveralls
 Chemical resistant gloves made of any waterproof material
 Shoes plus socks

Protective measures : Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Exposure Guidelines

Exposure Limit Values

Bromacil

PEL: (OSHA) 1 ppm 10 mg/m3 8 hr. TWA

TLV (ACGIH) 10 mg/m3 TWA

AEL * (DUPONT) 10 mg/m3 8 & 12 hr. TWA

Quartz

PEL: (OSHA) 5 mg/m3 8 hr. TWA Respirable fraction.

PEL: (OSHA) 15 mg/m3 8 hr. TWA Total dust.

PEL: (OSHA) 0.1 mg/m3 8 hr. TWA Respirable dust.



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PEL:	(OSHA)	2.4 millions of particles per cubic foot of air	TWA	Respirable.
		Remarks		The exposure limit is calculated from the equation, $250/(\%SiO_2+5)$, using a value of 100% SiO ₂ . Lower percentages of SiO ₂ will yield higher exposure limits.
PEL:	(OSHA)	0.1 mg/m ³	TWA	Respirable.
		Remarks		The exposure limit is calculated from the equation, $10/(\%SiO_2+2)$, using a value of 100% SiO ₂ . Lower percentages of SiO ₂ will yield higher exposure limits.
TLV	(ACGIH)	0.025 mg/m ³	TWA	Respirable fraction.
AEL *	(DUPONT)	0.1 mg/m ³	8 hr. TWA	Respirable dust.
AEL *	(DUPONT)	0.05 mg/m ³	12 hr. TWA	

* AEL is DuPont's Acceptable Exposure Limit. Where governmentally imposed occupational exposure limits which are lower than the AEL are in effect, such limits shall take precedence.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	: solidwetable powder
Color	: beige
Odor	: none
pH	: 8.5 - 9.5 at 20 g/l 20 °C (68 °F)
Bulk density	: 0.53 g/cm ³
Water solubility	: dispersible

SECTION 10. STABILITY AND REACTIVITY

Stability	: Stable at normal temperatures and storage conditions.
Incompatibility	: Amines especially primary amines
Hazardous decomposition products	: Decomposition will not occur.



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SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50 : > 5.2 mg/l , rat

Dermal LD50 : > 2,000 mg/kg , rabbit

Oral LD50 : 2,000 mg/kg , male, rat

Oral LD50 : 1,300 mg/kg , female, rat

Skin irritation : No skin irritation, rabbit

Eye irritation : Moderate eye irritation, rabbit

Sensitisation : Animal test did not cause sensitization by skin contact., guinea pig

Bromacil

Repeated dose toxicity :

The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral
rat

Liver effects, Organ weight changes, Thyroid effects, Reduced body weight gain

Inhalation
rat

Increased liver weight, altered blood chemistry

Carcinogenicity : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

An increased incidence of tumours was observed in laboratory animals.

Mutagenicity : Did not cause genetic damage in cultured bacterial cells.
Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.
Did not cause genetic damage in animals.


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Reproductive toxicity	:	Animal testing showed no reproductive toxicity.
Teratogenicity	:	Animal testing showed effects on embryo-foetal development at levels equal to or above those causing maternal toxicity.
Quartz		
Repeated dose toxicity	:	Inhalation Fluid retention in lungs (pulmonary oedema), lung effects, Inflammation, Chronic lung disease, Fibrosis
Carcinogenicity	:	An increased incidence of tumours was observed in laboratory animals. An increased risk of cancer in humans has been shown in workplace-based studies.
Mutagenicity	:	Did not cause genetic damage in cultured bacterial cells. Did not cause genetic damage in animals. Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.
Reproductive toxicity	:	No adverse effects expected.

SECTION 12. ECOLOGICAL INFORMATION
Aquatic Toxicity
Bromacil

96 h LC50	:	Lepomis macrochirus (Bluegill sunfish) 127 mg/l
96 h LC50	:	Oncorhynchus mykiss (rainbow trout) 36 mg/l
72 h ErC50	:	Pseudokirchneriella subcapitata (green algae) 0.017 mg/l
EC50	:	Anabaena flos-aquae (cyanobacteria) 0.070 mg/l
48 h EC50	:	Daphnia magna (Water flea) 119 mg/l
	:	NOEC Oncorhynchus mykiss (rainbow trout) 2.8 mg/l
21 d	:	NOEC Daphnia magna (Water flea) 8.2 mg/l

Quartz

: Aquatic toxicity is unlikely due to low solubility.



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: The product has low solubility in the test medium. An aqueous dispersion was tested.

Toxicity to other organisms
Bromacil
LD50

: *Colinus virginianus* (Bobwhite quail) > 2,250 mg/kg

Additional ecological information

: Environmental Hazards: Do not apply directly to water, or to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate. See product label for additional application instructions relating to environmental precautions.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

Container Disposal : Container Refilling and Disposal:
Container Disposal for Bulk Containers:
Refer to the product label for instructions.
The container must only be refilled with this pesticide product.
DO NO REUSE THE CONTAINER FOR ANY OTHER PURPOSE.
Do not transport if this container is damaged or leaking.

In the event of a major spill, fire or other emergency, call 1-800-441-3637 day or night.

SECTION 14. TRANSPORT INFORMATION

IATA_C UN-Number : 3077

Proper shipping name : Environmentally hazardous substance, solid, n.o.s.
(Bromacil)



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	Class	: 9
	Packing group	: III
	Labelling No.	: 9MI
IMDG	UN-Number	: 3077
	Proper shipping name	: Environmentally hazardous substance, solid, n.o.s. (Bromacil)
	Class	: 9
	Packing group	: III
	Labelling No.	: 9
	Marine pollutant	: yes (Bromacil)

Not regulated as a hazardous material by DOT.

SECTION 15. REGULATORY INFORMATION

SARA 313 Regulated Chemical(s) : Bromacil

Title III hazard classification : Acute Health Hazard: Yes
Chronic Health Hazard: Yes
Fire: No
Reactivity/Physical hazard: No
Pressure: No

EPA Reg. No. : 352-287
In the United States this product is regulated by the US Environmental Protection Agency (EPA) under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

California Prop. 65 : WARNING! This product contains a chemical known to the State of California to cause cancer.Quartz
WARNING! This product contains a chemical known to the State of California to cause cancer.Quartz



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PA Right to Know Regulated Chemical(s) : Substances on the Pennsylvania Hazardous Substances List present at a concentration of 1% or more (0.01% for Special Hazardous Substances): Bromacil, Silicon dioxide, amorphous

NJ Right to Know Regulated Chemical(s) : Substances on the New Jersey Workplace Hazardous Substance List present at a concentration of 1% or more (0.1% for substances identified as carcinogens, mutagens or teratogens): Bromacil, Silicon dioxide, amorphous

SECTION 16. OTHER INFORMATION

	NFPA	HMIS
Health :	1	1
Flammability :	1	1
Reactivity/Physical hazard :	0	0

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Contact person : DuPont Crop Protection, Wilmington, DE, 19898, Phone: 1-888-638-7668

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