

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

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

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	DuPont™ Assure® II Herbicide
Tradename/Synonym	:	DPX-79376 Quizalofop P-ethyl: Ethyl(R)-2-[4-(6-chloroquinoxalin-2-yl oxy)- phenoxy]propionate B10054988
MSDS Number	:	130000023960
Product Use	:	Herbicide
Manufacturer	:	E.I. du Pont Canada Company P.O. Box 2200, Streetsville Mississauga, ON L5M 2H3 Canada
Product Information	:	1-800-387-2122
Medical Emergency	:	1-800-441-3637 (24 hours)

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

Danger

Causes irreversible eye damage. Harmful if swallowed, inhaled or absorbed through skin. Avoid contact with skin, eyes and clothing. Avoid breathing vapours or mist.

This product is toxic to fish. This product is toxic to: Aquatic invertebrates

Potential Health Effects

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

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

Skin : May cause: Irritation with discomfort or pain, redness or rash, itching or swelling.

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

Inhalation : May cause: Cough, sneezing, runny nose, sore throat, or shortness of breath.

Repeated exposure

N-Methyl-2-pyrrolidone : May cause harm to the unborn child.

Target Organs

N-Methyl-2-pyrrolidone : Respiratory Tract

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS-No.	Concentration
Quizalofop p-ethyl	100646-51-3	10.3 %
Other Ingredients		89.7 %

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

Includes percentages of the following:

N-Methyl-2-pyrrolidone	872-50-4	<8 %
------------------------	----------	------

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** : 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 poison control center or doctor for treatment advice.
- Ingestion** : Call a poison control center or doctor for treatment advice. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give any liquid to the person. Do not 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.
- Notes to physician** : Probable mucosal damage may contraindicate the use of gastric lavage. Contains petroleum distillate. Vomiting may cause aspiration pneumonia.

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties

Flash point : 98.9 °C (210.0 °F) closed cup
Method : Setaflash closed cup - SCC

Suitable extinguishing media : Water spray, Foam, Dry chemical, Carbon dioxide (CO₂)

Unsuitable extinguishing media : High volume water jet, (contamination risk)

Firefighting Instructions : Wear full protective clothing and self-contained breathing apparatus. Evacuate personnel and keep upwind of fire. (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.

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.

Safeguards (Personnel) : Evacuate personnel, thoroughly ventilate area, use self-contained breathing apparatus. Use personal protective equipment.

Spill Cleanup : Dike spill.
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.
Dispose of in an approved container.

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.



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

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. Remove personal protective equipment immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.
- Handling (Physical Aspects) : Combustible
Keep away from heat and sources of ignition.
- Storage : Store in original container. Do not contaminate water, other pesticides, fertilizer, food or feed in storage. Store in a cool, dry place. Keep out of the reach of children.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Engineering controls : Use only with adequate ventilation. Keep container tightly closed. 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 170.240 (d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.
- Personal protective equipment
Skin and body protection : Applicators and other handlers must wear:
Long sleeved shirt and long pants
Chemical resistant gloves, such as barrier laminate or Viton
Shoes plus socks
Protective eyewear

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

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, such as barrier laminate or Viton

Shoes plus socks

Protective eyewear

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

Solvent naphtha (petroleum), heavy arom.

AEL * (DUPONT) 100 ppm 8 hr. TWA

Quizalofop p-ethyl

AEL * (DUPONT) 2 mg/m3 8 hr. TWA Total dust.

AEL * (DUPONT) 1 mg/m3 8 hr. TWA Respirable dust.

AEL * (DUPONT) 1 mg/m3 12 hr. TWA Total dust

AEL * (DUPONT) 0.5 mg/m3 12 hr. TWA Respirable dust.

N-Methyl-2-pyrrolidone

AEL * (DUPONT) 5 ppm 8 & 12 hr. TWA, Skin

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

* 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	: liquid
Color	: dark amber
Odor	: aromatic, hydrocarbon-like
pH	: 5 - 7 (1% solution in water)
Specific gravity	: 1.02
Water solubility	: emulsifiable

SECTION 10. STABILITY AND REACTIVITY

Stability	: Stable at normal temperatures and storage conditions.
Conditions to avoid	: Heat, flames and sparks.
Incompatibility	: None reasonably foreseeable.
Hazardous reactions	: Heating can release vapours which can be ignited. Vapours may form explosive mixture with air. Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

DuPont™ Assure® II Herbicide	
Inhalation 4 h LC50	: 2.6 - 4.4 mg/l , rat

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

Dermal LD50	:	> 2,000 mg/kg , rabbit
Oral LD50	:	5,900 mg/kg , rat
Skin irritation	:	Skin irritation, rabbit
Eye irritation	:	Eye irritation, rabbit
Sensitisation	:	Did not cause sensitization on laboratory animals., guinea pig
Further information	:	Information given is based on data on the components and the toxicology of similar products.
Quizalofop p-ethyl Repeated dose toxicity	:	The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. Oral - feed mouse Increased liver weight, Increased liver enzyme levels in serum Oral - feed rat altered blood chemistry
Carcinogenicity	:	An increased incidence of tumours was observed in some laboratory animals but not in others.
Mutagenicity	:	Tests on bacterial or mammalian cell cultures did not show mutagenic effects.
Reproductive toxicity	:	Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.
Teratogenicity	:	Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

N-Methyl-2-pyrrolidone

- | | | |
|------------------------|---|---|
| Repeated dose toxicity | : | Oral
rat
Reduced body weight gain |
| Carcinogenicity | : | Overall weight of evidence indicates that the substance is not carcinogenic. |
| Mutagenicity | : | Did not show mutagenic effects in animal experiments.
Tests on bacterial or mammalian cell cultures did not show mutagenic effects. |
| Reproductive toxicity | : | Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity. |
| Teratogenicity | : | Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
Reduced embryo-foetal viability
Foetal malformations |

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity

Quizalofop p-ethyl

EC50 : Algae 0.021 mg/l

N-Methyl-2-pyrrolidone

96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 500 mg/l

72 h EC50 : Algae > 500 mg/l

Environmental Fate

N-Methyl-2-pyrrolidone

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

Biodegradability : Readily biodegradable, according to appropriate OECD test.

Bioaccumulation : Accumulation in aquatic organisms is unlikely.

Additional ecological information : 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.

SECTION 13. DISPOSAL CONSIDERATIONS

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

Container Disposal : Container Refilling and Disposal:
Refer to the product label for instructions.
Do not transport if this container is damaged or leaking.

SECTION 14. TRANSPORT INFORMATION

IATA_C UN number : 3334

Proper shipping name : Aviation regulated liquid, n.o.s. (Quizalofop p-ethyl)

Class : 9

Labelling No. : 9MI

IMDG UN number : 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(Quizalofop p-ethyl)

Class : 9

Packing group : III

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

Labelling No. : 9

Marine pollutant : yes (Quizalofop p-ethyl)

Not regulated by DOT/49 CFR unless shipped in bulk package or by water.

Not regulated by TDG when transported solely on land by road or railway vehicle.

SECTION 15. REGULATORY INFORMATION

PCP Registration # : 25462

Remarks : Regulated under the Pest Control Products Act - WHMIS exempt.

SECTION 16. OTHER INFORMATION

MSDS preparation date : 08/24/2011

™ Trademark of E.I. du Pont de Nemours and Company.

® Registered trademark of E.I. du Pont de Nemours and Company

Contact person : E.I. DuPont Canada Company, Mississauga, Ontario, L5M 2H3

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The

Material Safety Data Sheet



DuPont™ Assure® II Herbicide

Version 2.0

Revision Date 08/24/2011

Ref. 130000023960

information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Significant change from previous version is denoted with a double bar.