



DuPont™ Assure® II Herbicide

Version 2.2

Revision Date 03/24/2017

Ref. 130000023960

N-Methyl-2-pyrrolidone : Causes eye irritation. May cause: Pain, tearing, swelling, redness, or temporary visual impairment..

Inhalation

N-Methyl-2-pyrrolidone : Causes respiratory tract irritation. 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 Organ

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 %

Includes percentages of the following:

N-Methyl-2-pyrrolidone	872-50-4	<8 %
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SECTION 4. FIRST AID MEASURES



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- 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.

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.

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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.

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



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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
 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.; Kerosine - unspecified			
TLV	(ACGIH)	200 mg/m3	TWA Non-aerosol. as total hydrocarbon vapor
		Remarks	P: Application restricted to conditions in which there are negligible aerosol exposures.
AEL *	(DuPont)	100 ppm	8 & 12 hr. TWA
N-Methyl-2-pyrrolidone			
AEL *	(DuPont)	5 ppm	8 & 12 hr. TWA, Skin
Quizalofop p-ethyl			
AEL *	(DuPont)	1 mg/m3	12 hr. TWA Total dust.

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AEL *	(DuPont)	0.5 mg/m3	12 hr. TWA Respirable dust.
AEL *	(DuPont)	2 mg/m3	8 hr. TWA Total dust.
AEL *	(DuPont)	1 mg/m3	8 hr. TWA Respirable dust.

* 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)
Oxidizing Substance	: The product is not oxidizing.
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.


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SECTION 11. TOXICOLOGICAL INFORMATION

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Inhalation 4 h LC50	: 2.6 - 4.4 mg/l , Rat
Dermal LD50	: > 2,000 mg/kg , Rabbit
Oral LD50	: 5,900 mg/kg , Rat
Skin irritation	: Skin irritation, Rabbit
Eye irritation	: Risk of serious damage to eyes., Rabbit
Sensitisation	: Did not cause sensitisation 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	: Oral - feed Mouse 90 d Liver effects
Carcinogenicity	: Animal testing did not show any carcinogenic effects. Not classifiable as a human carcinogen.
Reproductive toxicity	: No toxicity to reproduction
Teratogenicity	: Animal testing showed no developmental toxicity.
N-Methyl-2-pyrrolidone	
Repeated dose toxicity	: Oral Rat
	No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Reduced body weight gain
	Inhalation Rat
	No toxicological effects warranting significant target organ toxicity classification were seen below the recommended guidance values for classification., Respiratory irritation



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Dermal
Rabbit

No toxicologically significant effects were found.

- Carcinogenicity : Not classifiable as a human carcinogen.
Overall weight of evidence indicates that the substance is not carcinogenic.
- Reproductive toxicity : Presumed human reproductive toxicant
Animal testing showed effects on reproduction at levels equal to or above those causing parental toxicity.
Reduced fertility
- 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

- 96 h LC50 : Oncorhynchus mykiss (rainbow trout) 0.72 mg/l
- 72 h ErC50 : Pseudokirchneriella subcapitata (green algae) 0.021 mg/l
- 48 h EC50 : Daphnia magna (Water flea) 51.9 mg/l
- 21 d : NOEC Daphnia magna (Water flea) 0.787 mg/l

N-Methyl-2-pyrrolidone

- 96 h LC50 : Oncorhynchus mykiss (rainbow trout) > 500 mg/l
- 72 h ErC50 : Desmodesmus subspicatus (green algae) 600.5 mg/l
- 72 h NOEC : Desmodesmus subspicatus (green algae) 125 mg/l
- 21 d : NOEC Daphnia magna (Water flea) 12.5 mg/l OECD Test Guideline 211



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Environmental Fate

N-Methyl-2-pyrrolidone

Biodegradability : Biodegradable 73 % OECD Test Guideline 301C

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
	Packing group	: III
	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
	Labelling No.	: 9
	Marine pollutant	: yes (Quizalofop p-ethyl)



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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 : 03/24/2017

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