

# Material Safety Data Sheet

DOW AGROSCIENCES CANADA INC.

**Product name:** eNtrench™ Nitrogen Stabilizer

**Issue Date:** 09/09/2014

**Print Date:** 09/09/2014

DOW AGROSCIENCES CANADA INC. encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

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## 1. PRODUCT AND COMPANY IDENTIFICATION

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**Product name:** eNtrench™ Nitrogen Stabilizer

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Stabilizer

### COMPANY IDENTIFICATION

DOW AGROSCIENCES CANADA INC.  
2100 450 1<sup>ST</sup> STREET SW  
CALGARY AB T2P 5H1  
CANADA

**For MSDS Updates and Product Information:** 800-667-3852

**Prepared by:** Prepared for use in Canada by EH&S, Hazard Communications.

**Revision Date:** 09/09/2014

**Print Date:** 09/09/2014

**Customer Information Number:**

800-667-3852

[solutions@dow.com](mailto:solutions@dow.com)

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** 613-996-6666

**Local Emergency Contact:** 613-996-6666

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## 2. HAZARDS IDENTIFICATION

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### Emergency Overview

#### Appearance

Physical state                      Liquid.

Color                                      Tan

**Odor**                                      Mild

**Hazard Summary****WARNING!!**

May cause allergic skin reaction.  
Aspiration hazard. Can enter lungs and cause damage.  
Toxic fumes may be released in fire situations.  
Highly toxic to fish and/or other aquatic organisms.  
Possible cancer hazard. May cause cancer based on animal data.

**Potential Health Effects**

**Eyes:** Essentially nonirritating to eyes.

**Skin:** Prolonged skin contact is unlikely to result in absorption of harmful amounts.  
Essentially nonirritating to skin.  
Has demonstrated the potential for contact allergy in mice.

**Inhalation:** No adverse effects are anticipated from single exposure to mist.  
Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

**Ingestion:** Very low toxicity if swallowed.  
Harmful effects not anticipated from swallowing small amounts.

**Chronic Exposure:** For the active ingredient(s):

In animals, effects have been reported on the following organs:

Blood.

Kidney.

Liver.

Female reproductive organs.

Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Exposures having no effect on the mother should have no effect on the fetus.

Based on information for component(s):

Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.

Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

Ingestion of naphthalene by humans has caused hemolytic anemia.

Excessive exposure to solvent(s) may cause respiratory irritation and central nervous system depression.

Contains naphthalene which has caused cancer in some laboratory animals.

In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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**Chemical nature:** Mixture

This product is a mixture.

**Component****CASRN****Weight percent**

Nitrapyrin

1929-82-4

16.95%

Solvent naphtha (petroleum), heavy aromatic	64742-94-5	18.0%	Hazardous components
2-Methylnaphthalene	91-57-6	4.7%	
Naphthalene	91-20-3	2.5%	
1-Methylnaphthalene	90-12-0	2.3%	
Propylene glycol	57-55-6	13.6%	
Balance	Not available	41.95%	

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## 4. FIRST AID MEASURES

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### Description of first aid measures

**General advice:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Wash skin with soap and plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice. Wash clothing before reuse. Shoes and other leather items which cannot be decontaminated should be disposed of properly.

**Eye contact:** Hold eyes 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 eyes. Call a poison control center or doctor for treatment advice.

**Ingestion:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth to an unconscious person.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

### Indication of any immediate medical attention and special treatment needed

**Notes to physician:** If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. The decision of whether to induce vomiting or not should be made by a physician. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## 5. FIREFIGHTING MEASURES

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**Suitable extinguishing media:** To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam.

**Unsuitable extinguishing media:** no data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Sulfur oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide. Ammonia.

**Unusual Fire and Explosion Hazards:** This material will not burn until the water has evaporated. Residue can burn.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. To extinguish combustible residues of this product use water fog, carbon dioxide, dry chemical or foam. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Keep upwind of spill. Ventilate area of leak or spill. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information. Spills or discharge to natural waterways is likely to kill aquatic organisms.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13, Disposal Considerations, for additional information.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Avoid prolonged or repeated contact with skin. Wash thoroughly after handling. Keep container closed. Use with adequate ventilation. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Nitrapyrin	ACGIH	TWA	10 mg/m3
	ACGIH	STEL	20 mg/m3
	CA AB OEL	TWA	10 mg/m3
	CA AB OEL	STEL	20 mg/m3
	CA BC OEL	TWA	10 mg/m3
	CA BC OEL	STEL	20 mg/m3
	CA QC OEL	TWAEV	10 mg/m3
	CA QC OEL	STEV	20 mg/m3
2-Methylnaphthalene	CA BC OEL	TWA	0.5 ppm
	CA BC OEL	TWA	Absorbed via skin
	CA ON OEL	TWAEV	Absorbed via skin
Naphthalene	ACGIH	TWA	10 ppm
	ACGIH	TWA	Absorbed via skin
	CA AB OEL	TWA	52 mg/m3 10 ppm
	CA AB OEL	STEL	79 mg/m3 15 ppm
	CA AB OEL	TWA	Absorbed via skin
	CA BC OEL	TWA	10 ppm
	CA AB OEL	STEL	Absorbed via skin
	CA BC OEL	STEL	15 ppm
	CA BC OEL	TWA	Absorbed via skin
	CA QC OEL	TWAEV	52 mg/m3 10 ppm
	CA BC OEL	STEL	Absorbed via skin
	CA QC OEL	STEV	79 mg/m3 15 ppm
1-Methylnaphthalene	CA BC OEL	TWA	0.5 ppm
	CA BC OEL	TWA	Absorbed via skin
	CA ON OEL	TWAEV	Absorbed via skin
Propylene glycol	US WEEL	TWA	10 mg/m3
	CA ON OEL	TWAEV Total	155 mg/m3 50 ppm
	CA ON OEL	TWAEV	10 mg/m3
	CA ON OEL	TWA	155 mg/m3 50 ppm
	CA ON OEL	TWA	10 mg/m3

Consult local authorities for recommended exposure limits.

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields).

**Skin protection**

**Hand protection:** Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Styrene/butadiene rubber. Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Chlorinated polyethylene. Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance**

<b>Physical state</b>	Liquid.
<b>Color</b>	Tan
<b>Odor</b>	Mild
<b>Odor Threshold</b>	no data available
<b>pH</b>	8.51 <i>pH Electrode</i>
<b>Melting point/range</b>	Not applicable
<b>Freezing point</b>	No test data available
<b>Boiling point (760 mmHg)</b>	No test data available
<b>Flash point</b>	<b>closed cup</b> > 100 °C <i>Pensky-Martens Closed Cup ASTM D 93</i>
<b>Evaporation Rate (Butyl Acetate = 1)</b>	no data available
<b>Flammability (solid, gas)</b>	Not available
<b>Lower explosion limit</b>	No test data available
<b>Upper explosion limit</b>	No test data available
<b>Vapor Pressure</b>	No test data available
<b>Relative Vapor Density (air = 1)</b>	No test data available
<b>Relative Density (water = 1)</b>	No test data available
<b>Water solubility</b>	No test data available
<b>Partition coefficient: n-octanol/water</b>	no data available
<b>Auto-ignition temperature</b>	No test data available

<b>Decomposition temperature</b>	No test data available
<b>Kinematic Viscosity</b>	No test data available
<b>Explosive properties</b>	No
<b>Oxidizing properties</b>	No significant increase (>5C) in temperature.
<b>Liquid Density</b>	1.12 g/cm <sup>3</sup> at 20 °C <i>Digital density meter</i>
<b>Molecular weight</b>	no data available

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** no data available

**Chemical stability:** Thermally stable at recommended temperatures and pressures.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** Some components of this product can decompose at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible materials:** Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Ammonia. Hydrogen chloride. Sulfur oxides.

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## 11. TOXICOLOGICAL INFORMATION

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*Toxicological information on this product or its components appear in this section when such data is available.*

### Acute toxicity

#### Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product:

LD50, rat, female, > 5,000 mg/kg No deaths occurred at this concentration.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product:

LD50, rat, male and female, > 5,000 mg/kg No deaths occurred at this concentration.

#### Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

LC50, rat, male and female, 4 Hour, dust/mist, > 5.14 mg/l No deaths occurred at this concentration.

**Skin corrosion/irritation**

Essentially nonirritating to skin.

**Serious eye damage/eye irritation**

Essentially nonirritating to eyes.

**Sensitization**

Has demonstrated the potential for contact allergy in mice.

For respiratory sensitization:

No relevant data found.

**Specific Target Organ Systemic Toxicity (Single Exposure)**

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient(s):

In animals, effects have been reported on the following organs:

Blood.

Kidney.

Liver.

Female reproductive organs.

Based on information for component(s):

Excessive exposure may cause hemolysis, thereby impairing the blood's ability to transport oxygen.

Cataracts and other eye effects have been reported in humans repeatedly exposed to naphthalene vapor or dust.

Ingestion of naphthalene by humans has caused hemolytic anemia.

Excessive exposure to solvent(s) may cause respiratory irritation and central nervous system depression.

**Carcinogenicity**

For the active ingredient(s): Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans. Contains naphthalene which has caused cancer in some laboratory animals. In humans, there is limited evidence of cancer in workers involved in naphthalene production. Limited oral studies in rats were negative.

**Teratogenicity**

For the active ingredient(s): Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Exposures having no effect on the mother should have no effect on the fetus. Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

For the active ingredient(s): In animal studies, did not interfere with reproduction.

**Mutagenicity**

For the active ingredient(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

For the component(s) tested: In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.



**Aspiration Hazard**

May be fatal if swallowed and enters airways.

**Carcinogenicity**

Component	List	Classification
Naphthalene	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen

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**12. ECOLOGICAL INFORMATION**

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*Ecotoxicological information on this product or its components appear in this section when such data is available.*

**Toxicity****Nitrapyrin****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, *Lepomis macrochirus* (Bluegill sunfish), static test, 96 Hour, 3.4 - 7.9 mg/l, OECD Test Guideline 203 or Equivalent

LC50, Rainbow trout (*Oncorhynchus mykiss*), static test, 96 Hour, 4 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, eastern oyster (*Crassostrea virginica*), flow-through test, 96 Hour, 1.8 mg/l

LC50, *Daphnia magna* (Water flea), flow-through test, 48 Hour, 2.2 mg/l

**Acute toxicity to algae/aquatic plants**

ErC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, Growth rate inhibition, 1.7 mg/l

**Chronic toxicity to fish**

NOEC, Fathead minnow (*Pimephales promelas*), 34 d, 2.87 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

Material is slightly toxic to birds on a dietary basis (LC50 between 1001 and 5000 ppm).

oral LD50, *Anas platyrhynchos* (Mallard duck), 2708mg/kg bodyweight.

dietary LC50, *Anas platyrhynchos* (Mallard duck), 1466mg/kg diet.

dietary LC50, *Coturnix japonica* (Japanese quail), 820mg/kg diet.

**Toxicity to soil-dwelling organisms**

LC50, *Eisenia fetida* (earthworms), 15 d, survival, 209 mg/kg

**Solvent naphtha (petroleum), heavy aromatic****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 3.0 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, 1.1 mg/l

**Acute toxicity to algae/aquatic plants**

EC50, *Pseudokirchneriella subcapitata* (green algae), 72 Hour, 7.9 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, *Daphnia pulex* (Water flea), 21 d, mortality, 5.2 mg/l

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).

Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

dietary LC50, *Colinus virginianus* (Bobwhite quail), 5 d, > 6,500 ppm

oral LD50, *Colinus virginianus* (Bobwhite quail), > 2,250 mg/kg

**2-Methylnaphthalene****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), 96 Hour, 1.5 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour, 1.5 mg/l

**Naphthalene****Acute toxicity to fish**

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), 96 Hour, 0.11 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, 1.6 - 24.1 mg/l

**Chronic toxicity to fish**

NOEC, Other, flow-through, 40 d, mortality, 0.37 mg/l

**1-Methylnaphthalene****Acute toxicity to fish**

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

LC50, *Pimephales promelas* (fathead minnow), 96 Hour, 9 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour, 1.2 - 1.4 mg/l

**Propylene glycol****Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, *Oncorhynchus mykiss* (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203

**Acute toxicity to aquatic invertebrates**

LC50, Ceriodaphnia Dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202

**Acute toxicity to algae/aquatic plants**

ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201

**Toxicity to bacteria**

NOEC, Pseudomonas putida, 18 Hour, > 20,000 mg/l

**Chronic toxicity to aquatic invertebrates**

NOEC, Ceriodaphnia Dubia (water flea), semi-static test, 7 d, number of offspring, 13,020 mg/l

**Balance****Acute toxicity to fish**

No relevant data found.

**Persistence and degradability****Nitrapyrin**

**Biodegradability:** Chemical degradation (hydrolysis) is expected in the environment within days to weeks. Degradation is expected in the soil environment within days to weeks.

**Theoretical Oxygen Demand:** 0.97 mg/mg

**Stability in Water (1/2-life)**

Hydrolysis, half-life, 186 Hour, pH 5, Half-life Temperature 25 °C

Hydrolysis, half-life, 173 - 233 Hour, pH 7, Half-life Temperature 25 °C

Hydrolysis, half-life, 129 Hour, pH 9, Half-life Temperature 25 °C

**Solvent naphtha (petroleum), heavy aromatic**

**Biodegradability:** Biodegradation may occur under aerobic conditions (in the presence of oxygen). Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

10-day Window: Fail

**Biodegradation:** 30 - 41 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301D or Equivalent

**2-Methylnaphthalene**

**Biodegradability:** Expected to degrade slowly in the environment.

**Naphthalene**

**Biodegradability:** Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD > 40%).

**Theoretical Oxygen Demand:** 3.00 mg/mg

**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	57.000 %
10 d	71.000 %
20 d	71.000 %

**1-Methylnaphthalene**

**Biodegradability:** Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

10-day Window: Not applicable

**Biodegradation:** 0 - 2 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301C or Equivalent

**Propylene glycol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

**Biodegradation:** 81 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 96 %

**Exposure time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent

**Theoretical Oxygen Demand:** 1.68 mg/mg

**Chemical Oxygen Demand:** 1.53 mg/mg

**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	69.000 %
10 d	70.000 %
20 d	86.000 %

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential****Nitrapyrin**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.324 Measured

**Bioconcentration factor (BCF):** < 85 Lepomis macrochirus (Bluegill sunfish) 30 d Measured

**Solvent naphtha (petroleum), heavy aromatic**

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

**Partition coefficient: n-octanol/water(log Pow):** 2.9 - 6.1 Measured

**Bioconcentration factor (BCF):** 61 - 159 Fish.

**2-Methylnaphthalene**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.86 Estimated.

#### Naphthalene

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.3 Measured

**Bioconcentration factor (BCF):** 40 - 300 Fish. 28 d Measured

#### 1-Methylnaphthalene

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water(log Pow):** 3.87 Estimated.

#### Propylene glycol

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water(log Pow):** -1.07 Measured

**Bioconcentration factor (BCF):** 0.09 Estimated.

#### Balance

**Bioaccumulation:** No relevant data found.

#### **Mobility in soil**

##### Nitrapyrin

Potential for mobility in soil is medium (Koc between 150 and 500).

**Partition coefficient(Koc):** 321 Measured

##### Solvent naphtha (petroleum), heavy aromatic

No data available.

##### 2-Methylnaphthalene

No relevant data found.

##### Naphthalene

Potential for mobility in soil is medium (Koc between 150 and 500).

**Partition coefficient(Koc):** 240 - 1300 Measured

##### Propylene glycol

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient(Koc):** < 1 Estimated.

##### Balance

No relevant data found.

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## **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory

authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

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## 14. TRANSPORT INFORMATION

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### TDG

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Solvent naphtha (petroleum), heavy aromatic)
<b>UN number</b>	UN 3082
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Solvent naphtha (petroleum), heavy aromatic

### Classification for SEA transport (IMO-IMDG):

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.(Solvent naphtha (petroleum), heavy aromatic)
<b>UN number</b>	UN 3082
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Solvent naphtha (petroleum), heavy aromatic
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

### Classification for AIR transport (IATA/ICAO):

<b>Proper shipping name</b>	Environmentally hazardous substance, liquid, n.o.s.(Solvent naphtha (petroleum), heavy aromatic)
<b>UN number</b>	UN 3082
<b>Class</b>	9
<b>Packing group</b>	III

### Further information:

NOT REGULATED PER TDG EXEMPTION 1.45.1 FOR ROAD OR RAIL

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

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## 15. REGULATORY INFORMATION

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**Hazardous Products Act Information: CPR Compliance**

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

**Hazardous Products Act Information: WHMIS Classification****Hazards**

D2A Possible, Probable or Known Human Carcinogen According to Classifications By IARC or ACGIH

**National Fire Code of Canada**

Not applicable

**Canadian Domestic Substances List (DSL) (DSL)**

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

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## 16. OTHER INFORMATION

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**Hazard Rating System****NFPA**

Health	Fire	Reactivity
1	1	0

**Revision**

Identification Number: 101265989 / A215 / Issue Date: 09/09/2014 / Version: 1.0

DAS Code: GF-2937

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

**Legend**

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
CA AB OEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
CA BC OEL	Canada. British Columbia OEL
CA ON OEL	Canada. Ontario OELs
CA QC OEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
STEL	short-term exposure limit
STEV	Short-term exposure value
TWA	8-hour time weighted average
TWAEV	time-weighted average exposure value
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

**Information Source and References**

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW AGROSCIENCES CANADA INC. urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.