



**Be Right™**

# SAFETY DATA SHEET

Issue Date 16-Aug-2018

Revision Date 17-Aug-2018

Version 3.2

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## 1. IDENTIFICATION

### Product identifier

**Product Name** PAN Indicator Solution 0.3%

### Other means of identification

**Product Code(s)** 2150232

**Safety data sheet number** M00487

**UN/ID no** UN3082

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

**Recommended Use** Laboratory reagent. Determination of nickel.

**Uses advised against** None.

**Restrictions on use** None.

### Details of the supplier of the safety data sheet

#### **Manufacturer Address**

Hach Company P.O.Box 389 Loveland, CO 80539 USA +1(970) 669-3050

### Emergency telephone number

+1(303) 623-5716 - 24 Hour Service +1(515)232-2533 - 8am - 4pm CST

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Vapors)	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Reproductive toxicity	Category 1B
Aquatic Acute Toxicity	Category 1
Chronic aquatic toxicity	Category 1

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Signal word** - Danger

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#### **Hazard statements**

H227 - Combustible liquid  
H312 - Harmful in contact with skin  
H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H332 - Harmful if inhaled  
H360 - May damage fertility or the unborn child  
H410 - Very toxic to aquatic life with long lasting effects

#### **Precautionary statements**

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P363 - Wash contaminated clothing before reuse  
P501 - Dispose of contents/ container to an approved waste disposal plant  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P271 - Use only outdoors or in a well-ventilated area  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P332 + P313 - If skin irritation occurs: Get medical advice/attention  
P362 - Take off contaminated clothing and wash before reuse  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P310 - Immediately call a POISON CENTER or doctor/physician  
P201 - Obtain special instructions before use  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P273 - Avoid release to the environment  
P391 - Collect spillage  
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish  
P403 + P235 - Store in a well-ventilated place. Keep cool

#### **Other Hazards Known**

May be harmful if swallowed

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Substance**

Not applicable

#### **Mixture**

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	50 - 60%	-
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.omega.-hydroxy-	9002-93-1	40 - 50%	-

### **4. FIRST AID MEASURES**

#### **Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Self-protection of the first aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists.

#### **Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.
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#### **Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
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### **5. FIRE-FIGHTING MEASURES**

<b>Suitable Extinguishing Media</b>	Dry chemical. Carbon dioxide (CO <sub>2</sub> ). Water spray. Alcohol resistant foam.
<b>Unsuitable Extinguishing Media</b>	Caution: Use of water spray when fighting fire may be inefficient.
<b>Specific hazards arising from the chemical</b>	Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray.
<b>Hazardous combustion products</b>	Carbon monoxide, Carbon dioxide, dimethylamine.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

### **6. ACCIDENTAL RELEASE MEASURES**

<b>U.S. Notice</b>	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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#### **Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Take precautionary measures against static discharges. Do
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not touch or walk through spilled material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Avoid breathing vapors or mists.

**Other Information**

Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

**Environmental precautions**

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so.

**Methods and material for containment and cleaning up**

**Methods for containment**

Stop leak if you can do it without risk. Do not touch or walk through spilled material. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards**

Clean contaminated objects and areas thoroughly observing environmental regulations.

**Reference to other sections**

See section 8 for more information. See section 13 for more information.

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Advice on safe handling**

Use personal protection equipment. Do not breathe vapor or mist. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharges. Use with local exhaust ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Store locked up. Keep out of the reach of children. Store in accordance with particular national and local regulations.

**Flammability class**

Class IIIA

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m <sup>3</sup> (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Controls**  
Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Respiratory protection** No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

**Hand Protection** Wear suitable gloves. Impervious gloves.

**Eye/face protection** Tight sealing safety goggles.

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**General Hygiene Considerations** Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

**Environmental exposure controls** Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.

**Thermal hazards** None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid		
<b>Appearance</b>	aqueous solution	<b>Color</b>	Dark red to orange
<b>Odor</b>	Amine	<b>Odor threshold</b>	No data available

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
<b>Molecular weight</b>	No data available	
<b>pH</b>	9.45	
<b>Melting point/freezing point</b>	No data available	
<b>Boiling point / boiling range</b>	103 °C / 217 °F	
<b>Evaporation rate</b>	0.59 (water = 1)	
<b>Vapor pressure</b>	No data available	
<b>Vapor density (air = 1)</b>	No data available	
<b>Specific gravity (water = 1 / air = 1)</b>	1.006	
<b>Partition Coefficient (n-octanol/water)</b>	Not applicable	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	Not applicable	
<b>Autoignition temperature</b>	No data available	
<b>Decomposition temperature</b>	No data available	
<b>Dynamic viscosity</b>	No data available	
<b>Kinematic viscosity</b>	No data available	

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### Solubility(ies)

#### **Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

#### **Solubility in other solvents**

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

### Other Information

#### **Metal Corrosivity**

**Steel Corrosion Rate**  
**Aluminum Corrosion Rate**

0.02 mm/yr / 0 in/yr

#### **Volatile Organic Compounds (VOC) Content**

See ingredients information below

<b>Chemical name</b>	<b>CAS No.</b>	<b>Volatile organic compounds (VOC) content</b>	<b>CAA (Clean Air Act)</b>
N,N-Dimethylformamide	68-12-2	No data available	X
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)ph enyl]-.omega.-hydroxy-	9002-93-1	No data available	-

#### **Explosive properties**

**Upper explosion limit**  
**Lower explosion limit**

No data available  
No data available

#### **Flammable properties**

**Flash point**  
**Method**

61 °C / 142 °F  
CC (closed cup)

#### **Flammability Limit in Air**

**Upper flammability limit**  
**Lower flammability limit**

No data available  
No data available

#### **Oxidizing properties**

No data available.

#### **Bulk density**

No data available

#### **Particle Size**

No information available

#### **Particle Size Distribution**

No information available

## **10. STABILITY AND REACTIVITY**

### Reactivity

Not applicable.

### Chemical stability

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**Stability** Stable under normal conditions.

**Explosion data**

**Sensitivity to Mechanical Impact** None  
**Sensitivity to Static Discharge** None.

**Possibility of Hazardous Reactions**

**Possibility of Hazardous Reactions** None under normal processing.

**Hazardous polymerization**

None under normal processing.

**Conditions to avoid**

**Conditions to avoid** Heat, flames and sparks. Excessive heat.

**Incompatible materials**

**Incompatible materials** Strong acids. Strong bases. Strong oxidizing agents.

**Hazardous Decomposition Products**

Carbon monoxide. Carbon dioxide.

## 11. TOXICOLOGICAL INFORMATION

**Information on Likely Routes of Exposure**

**Product Information**

<b>Inhalation</b>	May cause irritation of respiratory tract. Harmful by inhalation.
<b>Eye contact</b>	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
<b>Skin contact</b>	Causes skin irritation.
<b>Ingestion</b>	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
<b>Symptoms</b>	Redness. Burning. May cause blindness. May cause redness and tearing of the eyes. Coughing and/ or wheezing.
<b>Aggravated Medical Conditions</b>	Skin disorders. Eye disorders. Preexisting eye disorders. Kidney disorders. Liver disorders. Respiratory disorders. Central Vascular System (CVS).
<b>Toxicologically synergistic products</b>	Exposure to and/or consumption of alcohol may increase toxic effects of this product. Reports of increased possibilities of facial flushing from inhalation of vapors after ingestion of alcohol. Effects resemble porphyria.
<b>Toxicokinetics, metabolism and distribution</b>	No information available.

**Product Acute Toxicity Data**

<b>Oral Exposure Route</b>	No data available
<b>Dermal Exposure Route</b>	No data available
<b>Inhalation (Dust/Mist) Exposure Route</b>	No data available
<b>Inhalation (Vapor) Exposure Route</b>	No data available
<b>Inhalation (Gas) Exposure Route</b>	No data available

**Unknown Acute Toxicity**

43.02% of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**

The following values are calculated based on chapter 3.1 of the GHS document

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<b>ATEmix (oral)</b>	2,266.00 mg/kg
<b>ATEmix (dermal)</b>	1,941.00 mg/kg
<b>ATEmix (inhalation-dust/mist)</b>	1.51 mg/L
<b>ATEmix (inhalation-vapor)</b>	11.06 mg/L
<b>ATEmix (inhalation-gas)</b>	No information available

#### **Ingredient Acute Toxicity Data**

##### **Oral Exposure Route**

If available, see data below

<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Rat LD <sub>50</sub>	2800 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetra-methylbutyl)phenyl]-.omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	Rat LD <sub>50</sub>	1800 mg/kg	None reported	None reported	ERMA (New Zealand's Environmental Risk Management Authority)

##### **Dermal Exposure Route**

If available, see data below

<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Rat LD <sub>50</sub>	1100 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

##### **Inhalation (Dust/Mist) Exposure Route**

If available, see data below

<b>Chemical name</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Toxicological effects</b>	<b>Key literature references and sources for data</b>
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Rat LC <sub>50</sub>	> 5.9 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)

##### **Inhalation (Vapor) Exposure Route**

If available, see data below

##### **Inhalation (Gas) Exposure Route**

If available, see data below

#### **Product Specific Target Organ Toxicity Single Exposure Data**

##### **Oral Exposure Route**

No data available

##### **Dermal Exposure Route**

No data available

##### **Inhalation (Dust/Mist) Exposure Route**

No data available

##### **Inhalation (Vapor) Exposure Route**

No data available

##### **Inhalation (Gas) Exposure Route**

No data available

#### **Ingredient Specific Target Organ Toxicity Single Exposure Data**

##### **Oral Exposure Route**

If available, see data below

##### **Dermal Exposure Route**

If available, see data below

##### **Inhalation (Dust/Mist) Exposure Route**

If available, see data below

##### **Inhalation (Vapor) Exposure Route**

If available, see data below

##### **Inhalation (Gas) Exposure Route**

If available, see data below

#### **Aspiration toxicity**

No data available

#### **Product Skin Corrosion/Irritation Data**

No data available.

#### **Ingredient Skin Corrosion/Irritation Data**

If available, see data below



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Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **Product Serious Eye Damage/Eye Irritation Data**

No data available.

#### **Ingredient Eye Damage/Eye Irritation Data**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)
Poly(oxy-1,2-ethaned iyl), .alpha.-[4-(1,1,3,3-tetr amethylbutyl)phenyl]- .omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	Standard Draize Test	Rabbit	None reported	None reported	Corrosive to eyes	RTECS (Registry of Toxic Effects of Chemical Substances)

#### **Sensitization Information**

##### **Product Sensitization Data**

**Skin Sensitization Exposure Route**

No data available.

**Respiratory Sensitization Exposure Route**

No data available.

##### **Ingredient Sensitization Data**

**Skin Sensitization Exposure Route**

If available, see data below.

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform Chemical Information Database)

**Respiratory Sensitization Exposure Route**

If available, see data below.

#### **Chronic Toxicity Information**

##### **Product Specific Target Organ Toxicity Repeat Dose Data**

**Oral Exposure Route**

No data available.

**Dermal Exposure Route**

No data available.

**Inhalation (Dust/Mist) Exposure Route**

No data available.

**Inhalation (Vapor) Exposure Route**

No data available.

**Inhalation (Gas) Exposure Route**

No data available.

##### **Ingredient Specific Target Organ Toxicity Repeat Exposure Data**

**Oral Exposure Route**

If available, see data below

**Dermal Exposure Route**

If available, see data below

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

**Inhalation (Vapor) Exposure Route**

If available, see data below

**Inhalation (Gas) Exposure Route**

If available, see data below

##### **Product Carcinogenicity Data**

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<b>Oral Exposure Route</b>	No data available
<b>Dermal Exposure Route</b>	No data available
<b>Inhalation (Dust/Mist) Exposure Route</b>	No data available
<b>Inhalation (Vapor) Exposure Route</b>	No data available
<b>Inhalation (Gas) Exposure Route</b>	No data available

**Ingredient Carcinogenicity Data**

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramet hylbutyl)phenyl]-.omega.-h ydroxy-	9002-93-1	-	-	-	-

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	Does not apply
<b>IARC (International Agency for Research on Cancer)</b>	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
<b>NTP (National Toxicology Program)</b>	Does not apply
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	X - Present

<b>Oral Exposure Route</b>	If available, see data below
<b>Dermal Exposure Route</b>	If available, see data below
<b>Inhalation (Dust/Mist) Exposure Route</b>	If available, see data below
<b>Inhalation (Vapor) Exposure Route</b>	If available, see data below
<b>Inhalation (Gas) Exposure Route</b>	If available, see data below

**Product Germ Cell Mutagenicity *invitro* Data**

No data available.

**Ingredient Germ Cell Mutagenicity *invitro* Data**

If available, see data below

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformami de (50 - 60%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Product Germ Cell Mutagenicity *invivo* Data**

<b>Oral Exposure Route</b>	No data available
<b>Dermal Exposure Route</b>	No data available
<b>Inhalation (Dust/Mist) Exposure Route</b>	No data available
<b>Inhalation (Vapor) Exposure Route</b>	No data available
<b>Inhalation (Gas) Exposure Route</b>	No data available

**Ingredient Germ Cell Mutagenicity *invivo* Data**

<b>Oral Exposure Route</b>	If available, see data below
<b>Dermal Exposure Route</b>	If available, see data below
<b>Inhalation (Dust/Mist) Exposure Route</b>	If available, see data below
<b>Inhalation (Vapor) Exposure Route</b>	If available, see data below
<b>Inhalation (Gas) Exposure Route</b>	If available, see data below

**Product Reproductive Toxicity Data**

<b>Oral Exposure Route</b>	No data available
<b>Dermal Exposure Route</b>	No data available

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**Inhalation (Dust/Mist) Exposure Route**  
**Inhalation (Vapor) Exposure Route**  
**Inhalation (Gas) Exposure Route**

No data available  
No data available  
No data available

**Ingredient Reproductive Toxicity Data**

**Oral Exposure Route**

If available, see data below

**Dermal Exposure Route**

If available, see data below

**Inhalation (Dust/Mist) Exposure Route**

If available, see data below

**Inhalation (Vapor) Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Mouse TD <sub>Lo</sub>	50 mg/L	6 hours	<b>Paternal Effects</b> Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Gas) Exposure Route**

If available, see data below

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Very toxic to aquatic life with long lasting effects

**Product Ecological Data**

**Aquatic toxicity**

**Fish**

No data available

**Crustacea**

No data available

**Algae**

No data available

**Ingredient Ecological Data**

**Aquatic toxicity**

**Fish**

If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	7100 mg/L	PEEN (Pan European Ecological Network)
Poly(oxy-1,2-ethaned iyl), .alpha.-[4-(1,1,3,3-tetr amethylbutyl)phenyl]- .omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	4.5 mg/L	ERMA (New Zealands Environmental Risk Management Authority)

**Crustacea**

If available, see ingredient data below

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	7500 mg/L	PEEN (Pan European Ecological Network)
Poly(oxy-1,2-ethaned iyl), .alpha.-[4-(1,1,3,3-tetr amethylbutyl)phenyl]- .omega.-hydroxy- (40 - 50%)	48 Hours	<i>Daphnia magna</i>	LC <sub>50</sub>	18 mg/L	Vendor SDS

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CAS#: 9002-93-1					
<b>Algae</b>					
If available, see ingredient data below					
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC <sub>50</sub>	> 500 mg/L	PEEN (Pan European Ecological Network)
Poly(oxy-1,2-ethaned iyl), .alpha.-[4-(1,1,3,3-tetr amethylbutyl)phenyl]- .omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	96 hours	None reported	EC <sub>50</sub>	0.21 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)

#### Other Information

#### Persistence and degradability

**Product Biodegradability Data**  
No data available.

#### Ingredient Biodegradability Data

Chemical name	Test method	Biodegradation	Exposure time	Results
Poly(oxy-1,2-ethaned iyl), .alpha.-[4-(1,1,3,3-tetr amethylbutyl)phenyl]- .omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	Estimation through BOWIN v4.10 part of the Estimation Programs Interface (EPI) Suite™	None reported	None reported	Not readily biodegradable

#### Bioaccumulation

**Product Bioaccumulation Data**  
No data available.

#### Partition Coefficient (n-octanol/water)

Not applicable

#### Ingredient Bioaccumulation Data

Chemical name	Test method	Exposure time	Species	Bioconcentration factor (BCF)	Results
Poly(oxy-1,2-ethaned iyl), .alpha.-[4-(1,1,3,3-tetr amethylbutyl)phenyl]- .omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	Estimation through BCFBAF v3.01 part of the Estimation Programs Interface (EPI) Suite™	None reported	None reported	BCF = 417	Does not have the potential to bioaccumulate

#### Mobility

#### Soil Organic Carbon-Water Partition Coefficient

Not applicable

#### Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

**Other adverse effects**

Contains a substance with an endocrine-disrupting potential.

<b>Chemical name</b>	<b>EU - Endocrine Disrupters Candidate List</b>	<b>EU - Endocrine Disrupters - Evaluated Substances</b>	<b>Endocrine disrupting potential</b>
N,N-Dimethylformamide (50 - 60%) CAS#: 68-12-2	Group III Chemical	-	-
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)ph enyl]-.omega.-hydroxy- (40 - 50%) CAS#: 9002-93-1	Group III Chemical	-	-

### 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste from residues/unused products**

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging**

Do not reuse empty containers.

**US EPA Waste Number**

D001

**Special instructions for disposal**

Incinerate material at an E.P.A. approved hazardous waste facility.

### 14. TRANSPORT INFORMATION

**U.S. DOT**

<b>UN/ID no</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s.
<b>DOT Technical Name</b>	(Dimethylformamide - Surfactant Mixture)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III

**TDG**

<b>UN/ID no</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s.
<b>TDG Technical Name</b>	(Dimethylformamide - Surfactant Mixture)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III

**IATA**

<b>UN/ID no</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s.
<b>IATA Technical Name</b>	(Dimethylformamide - Surfactant Mixture)
<b>Hazard Class</b>	9
<b>Packing Group</b>	III

**IMDG**

<b>UN/ID no</b>	UN3082
<b>Proper shipping name</b>	Environmentally hazardous substances, liquid, n.o.s.

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**IMDG Technical Name** (Dimethylformamide - Surfactant Mixture)  
**Hazard Class** 9  
**Packing Group** III  
**Marine pollutant** This material meets the definition of a marine pollutant

**Note:** No special precautions necessary.

#### **Additional information**

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.  
If the item is part of a reagent set or kit the classification would change to the following:  
UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.  
If the item is not regulated, the Chemical Kit classification does not apply.

### **15. REGULATORY INFORMATION**

#### **National Inventories**

**TSCA** Complies  
**DSL/NDSL** Complies

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

#### **International Inventories**

**EINECS/ELINCS** Complies  
**ENCS** Does not comply  
**IECSC** Complies  
**KECL** Does not comply  
**PICCS** Does not comply  
**TCSI** Complies  
**AICS** Complies  
**NZIoC** Complies

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**TCSI** - Taiwan Chemical Substances Inventory  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

#### **US Federal Regulations**

##### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

<b>Chemical name</b>	<b>SARA 313 - Threshold Values %</b>
N,N-Dimethylformamide (CAS #: 68-12-2)	1.0

##### **SARA 311/312 Hazard Categories**

<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire hazard</b>	Yes
<b>Sudden release of pressure hazard</b>	No
<b>Reactive Hazard</b>	No

##### **CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40

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CFR 122.42)

#### **CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

#### **US State Regulations**

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



**WARNING:** This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.

For more information, go to <http://www.P65Warnings.ca.gov>

#### **U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X

#### **U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Poly(oxy-1,2-ethanediyl), .alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.ome ga.-hydroxy-	180.0910	-

### **16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

#### **Special Comments**

None

#### **Additional information**

##### **Global Automotive Declarable Substance List (GADSL)**

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thresholds
N,N-Dimethylformamide 68-12-2	Declarable Substance (LR)	0.1 %
Poly(oxy-1,2-ethanediyl),	Declarable Substance (LR)	0.1 %

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.alpha.-[4-(1,1,3,3-tetramethylbutyl)phenyl]-.ome ga.-hydroxy- 9002-93-1		
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#### **NFPA and HMIS Classifications**

<b>NFPA</b>	<b>Health hazards - 3</b>	<b>Flammability - 2</b>	<b>Instability - 0</b>	<b>Physical and Chemical Properties -</b>
<b>HMIS</b>	<b>Health hazards - 3</b>	<b>Flammability - 2</b>	<b>Physical Hazards - 0</b>	<b>Personal protection - X</b> - See section 8 for more information

#### **Key or legend to abbreviations and acronyms used in the safety data sheet**

NIOSH IDLH	<i>Immediately Dangerous to Life or Health</i>
ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
NDF	<i>no data</i>

#### **Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

<b>Prepared By</b>	Hach Product Compliance Department
<b>Issue Date</b>	16-Aug-2018
<b>Revision Date</b>	17-Aug-2018
<b>Revision Note</b>	None

#### **Disclaimer**

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

**THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.**

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**End of Safety Data Sheet**