



Be Right™

# SAFETY DATA SHEET

Issue Date 06-Jul-2016

Revision Date 02-Sep-2016

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## 1. IDENTIFICATION

### Product identifier

**Product Name** <0.1 NTU Calibration Solution

### Other means of identification

**Product Code(s)**

2684701

**Safety data sheet number** M02701

**Component of Kits or Sets** 2659405; 2659405SUB; 2823500; 2844700; 2955100; 2980700; 4474000; 4650000; 4650100

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

**Recommended Use** Laboratory reagent.

**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  
(970) 669-3050

#### Emergency telephone number

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

### Product Information

**Chemical Name** Not applicable

**Formula** Not applicable

**CAS No** Not applicable

**Alternate CAS Number** Not applicable

**NIOSH (RTECS) Number** None reported

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

#### **Not Hazardous**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

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**Hazard statements**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Other Information**

Not applicable

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Not applicable

**Mixture**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Chemical Family** Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Ethyl alcohol	64-17-5	0.1 - 1	-
Methyl alcohol	67-56-1	<0.1	-

## 4. FIRST AID MEASURES

### Description of first aid measures

<b>General advice</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).
<b>Eye contact</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If symptoms persist, call a physician.
<b>Skin contact</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician.
<b>Inhalation</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
<b>Ingestion</b>	IF SWALLOWED: Rinse Mouth. If symptoms persist, call a physician.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

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

**Symptoms** See Section 11: TOXICOLOGICAL INFORMATION.

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

**Note to physicians** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

### Flammable properties

Substance does not burn.

### Specific hazards arising from the chemical

May react violently with. Strong acids. Strong bases. strong oxidizers.

**Hazardous combustion products** This material will not burn.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**U.S. Notice** 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.

**EC Notice** Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

**WHMIS Notice** Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Evacuate personnel to safe areas. Do not touch or walk through spilled material. Ventilate affected area. Use personal protective equipment as required.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** Avoid release to the environment. See Section 12 for additional ecological information.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up** Neutralize spill if necessary. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Dispose of in accordance with local, state and federal regulations or laws.

**Emergency Response Guide Number** Not applicable

**7. HANDLING AND STORAGE**

**Precautions for safe handling**

**Advice on safe handling** Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Do not breathe dust/fume/gas/mist/vapors/spray.

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

**Flammability class** Not applicable

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

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethyl alcohol 0.1 - 1	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup> (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m <sup>3</sup>	IDLH: 3300 ppm TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Methyl alcohol <0.1	STEL: 250 ppm TWA: 200 ppm S*	TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m <sup>3</sup> (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m <sup>3</sup> (vacated) SKN*	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> STEL: 250 ppm STEL: 325 mg/m <sup>3</sup>

Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Ethyl alcohol 0.1 - 1	TWA: 1000 ppm TWA: 1880 mg/m <sup>3</sup>	STEL: 1000 ppm	STEL: 1000 ppm	TWA: 1000 ppm TWA: 1880 mg/m <sup>3</sup>	STEL: 1000 ppm
Methyl alcohol <0.1	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> SKN*	TWA: 200 ppm STEL: 250 ppm SKN*

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Ethyl alcohol 0.1 - 1	TWA: 1000 ppm STEL: 1250 ppm	STEL: 1000 ppm	TWA: 1000 ppm STEL: 1250 ppm	STEL: 1000 ppm	STEL: 1000 ppm
Methyl alcohol <0.1	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm TWA: 200 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm TWA: 200 ppm

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Ethyl alcohol 0.1 - 1	TWA: 1000 ppm TWA: 1880 mg/m <sup>3</sup>	TWA: 1000 ppm STEL: 1250 ppm	STEL: 1000 ppm STEL: 1900 mg/m <sup>3</sup> TWA: 1000 ppm TWA: 1900 mg/m <sup>3</sup>
Methyl alcohol <0.1	TWA: 200 ppm TWA: 262 mg/m <sup>3</sup> STEL: 250 ppm STEL: 328 mg/m <sup>3</sup> SKN*	TWA: 200 ppm STEL: 250 ppm SKN*	STEL: 250 ppm STEL: 310 mg/m <sup>3</sup> TWA: 200 ppm TWA: 260 mg/m <sup>3</sup> SKN*

**Other Information** Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

**Legend** See section 16 for terms and abbreviations

**Appropriate engineering controls**

**Engineering Controls** Showers  
 Eyewash stations  
 Ventilation systems

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

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear protective gloves and protective clothing.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Take off all contaminated clothing and wash it before reuse. Wash hands thoroughly after handling. Regular cleaning of equipment, work area and clothing is recommended.

**Environmental exposure controls**

Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

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**Physical state** Liquid  
**Gas Under Pressure** Not classified according to GHS criteria  
**Appearance** aqueous solution **Color** colorless  
**Odor** Slight **Odor threshold** No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	No data available	
<b>pH</b>	~ 7	
<b>Melting point/freezing point</b>	~ 0 °C / 32 °F	Estimation based on theoretical calculation
<b>Boiling point / boiling range</b>	~ 100 °C / 212 °F	Estimation based on theoretical calculation
<b>Evaporation rate</b>	1 (water = 1) Estimation based on theoretical calculation	
<b>Vapor pressure</b>	24.002 mm Hg / 3.2 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
<b>Vapor density (air = 1)</b>	0.62	
<b>Specific gravity (water = 1 / air = 1)</b>	1	Estimation based on theoretical calculation
<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>	~ 1 cP (mPa s) at 20 °C / 68 °F	
<b>Kinematic viscosity</b>	~ 1 cSt (mm <sup>2</sup> /s) at 20 °C / 68 °F	

#### 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
Aromatic hydrocarbons	Insoluble	< 0.1 mg/L	25 °C / 77 °F

#### Other Information

**Metal Corrosivity** Not classified as corrosive to metal according to GHS criteria

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<b>Steel Corrosion Rate</b>	No data available
<b>Aluminum Corrosion Rate</b>	No data available
<b>Volatile Organic Compounds (VOC) Content</b>	No information available.
<b>Bulk density</b>	Not applicable
<b>Explosive properties</b>	Not classified according to GHS criteria.
<b>Explosion data</b>	No data available
<b>Upper explosion limit</b>	No data available
<b>Lower explosion limit</b>	No data available
<b>Flammable properties</b>	Not classified as flammable according to GHS criteria.
<b>Flammability Limit in Air</b>	
<b>Upper flammability limit:</b>	No data available
<b>Lower flammability limit:</b>	No data available
<b>Flash point</b>	No data available
<b>Oxidizing properties</b>	Not classified according to GHS criteria.
<b>Reactivity properties</b>	Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria.

## 10. STABILITY AND REACTIVITY

### Reactivity properties

Not classified as self-reactive, pyrophoric, self-heating or emitting flammable gases in contact with water according to GHS criteria

### Chemical stability

Stable under recommended storage conditions.

### Special dangers of the product

No information available

### Possibility of Hazardous Reactions

No information available.

**Hazardous polymerization**      Hazardous polymerization does not occur.

### Conditions to avoid

Contact with acid or acid fumes. Contact with oxidizers. Extreme temperatures.

### Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

### Hazardous Decomposition Products

None known based on information supplied.

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**Explosive properties**

Not classified according to GHS criteria.

**Upper explosion limit** No data available

**Lower explosion limit** No data available

**Autoignition temperature**

No data available

**Sensitivity to Static Discharge**

None reported

**Sensitivity to Mechanical Impact**

None reported

**11. TOXICOLOGICAL INFORMATION**

**Information on Likely Routes of Exposure**

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information.
<b>Inhalation</b>	No known effect based on information supplied.
<b>Eye contact</b>	No known effect based on information supplied.
<b>Skin contact</b>	No known effect based on information supplied.
<b>Ingestion</b>	No known effect based on information supplied.
<b>Aggravated Medical Conditions</b>	None known.
<b>Toxicologically synergistic products</b>	None known.
<b>Toxicokinetics, metabolism and distribution</b>	See ingredients information below.

<b>Chemical Name</b>	<b>Toxicokinetics, metabolism and distribution</b>
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Small amounts are excreted unchanged in urine, sweat and breath. Most is metabolized to acetaldehyde and then to acetate, primarily in the liver.
Methyl alcohol (<0.1) CAS#: 67-56-1	Metabolism of methanol appears to be similar regardless of administrative route. Methanol is converted to formaldehyde, which is converted to formate which is oxidized to carbon dioxide in primates.

**Product Acute Toxicity 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 Acute Toxicity Data**

**Oral Exposure Route**

<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>
Ethyl alcohol (0.1 - 1)	Rat LD <sub>50</sub>	7060 mg/kg	None reported	None reported	GESTIS (Information System on Hazardous Substances of



CAS#: 64-17-5					the German Social Accident Insurance)
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LD <sub>50</sub>	300 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
<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>
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat LD <sub>50</sub>	5628 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
<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>
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Human TD <sub>Lo</sub>	500 mg/kg	None reported	<b>Behavioral</b>	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LD <sub>Lo</sub>	143 mg/kg	None reported	<b>Lungs, Thorax, or Respiration</b> Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)
<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>
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Man TD <sub>Lo</sub>	2660 mg/kg	None reported	<b>Behavioral</b> Altered sleep time (including change in righting reflex)	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Man LD <sub>Lo</sub>	3.571 mg/kg	None reported	<b>Lungs, Thorax, or Respiration</b> Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Dermal Exposure Route

<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>
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LD <sub>50</sub>	1000 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
<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>
Methyl alcohol (<0.1) CAS#: 67-56-1	Rabbit LD <sub>50</sub>	15800 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)

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

No data available

#### Inhalation (Vapor) Exposure Route

<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>
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Rat LC <sub>50</sub>	8000 mg/L	4 hours	None reported	Vendor SDS
Methyl alcohol (<0.1) CAS#: 67-56-1	Human LC <sub>50</sub>	10 mg/L	4 hours	None reported	IUCLID (The International Uniform Chemical Information Database)
<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>
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat LC <sub>50</sub>	64000 mg/L	6 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
<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>
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Human TC <sub>Lo</sub>	30 mg/L	4 hours	<b>Peripheral Nerve and Sensation</b> Recording from afferent nerve	RTECS (Registry of Toxic Effects of Chemical Substances)

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Methyl alcohol (<0.1) CAS#: 67-56-1	Human TC <sub>Lo</sub>	300 mg/L	None reported	<b>Lungs, Thorax, or Respiration</b> Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)
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**Inhalation (Gas) Exposure Route**

No data available

**Product Skin Corrosion/Irritation Data**

No data available.

**Ingredient Skin Corrosion/Irritation Data**

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Standard Draize Test	Rabbit	20 mg	24 hours	Skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Standard Draize Test	Rabbit	20 mg	24 hours	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**

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Rinse Test	Rabbit	100 mg	4 seconds	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Standard Draize Test	Rabbit	40 mg	None reported	Eye irritant	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**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test method	Species	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Patch test	Human	Not confirmed to be a skin sensitizer	HSDB (Hazardous Substances Data Bank)

**Respiratory Sensitization Exposure Route**

No data available.

**Chronic Toxicity Information**

**Product Repeat Dose Toxicity 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 Repeat Dose Toxicity Data**

**Oral Exposure Route**

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Man TD <sub>Lo</sub>	4623000 mg/kg	4380 days	<b>Brain and Coverings</b> Other degenerative changes	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Human TD <sub>Lo</sub>	149 mg/kg	4 years	<b>Skin and Appendages</b> Dermatitis	RTECS (Registry of Toxic Effects of Chemical Substances)

**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

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Ethyl alcohol	64-17-5	A3	Group 1	Known	X
Methyl alcohol	67-56-1	-	-	-	-

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	A3 - Animal Carcinogen
<b>IARC (International Agency for Research on Cancer)</b>	Group 1 - Carcinogenic to Humans
<b>NTP (National Toxicology Program)</b>	Known - Known Carcinogen
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	X - Present

**Product Carcinogenicity Data** No data available  
**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 Carcinogenicity Data**

**Oral Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Mouse	320 mg/kg	50 weeks	<b>Blood</b> Lymphoma (including Hodgkin's disease) <b>Liver</b> Tumors	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Mouse	400000 mg/kg	57 weeks	<b>Gastrointestinal</b> Tumors	RTECS (Registry of Toxic Effects of Chemical Substances)

**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

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

No data available.

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

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Sister chromatid exchange	Human lymphocyte	500 mg/L	72 hours	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	DNA inhibition	Human lymphocyte	300 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**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 Germ Cell Mutagenicity *invivo* Data**

**Oral Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Micronucleus test	Human	817600 mg/kg	6 years	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol	DNA damage	Rat	0.405 mg/kg	None	Positive test result for	RTECS (Registry

(<0.1) CAS#: 67-56-1				reported	mutagenicity	of Toxic Effects of Chemical Substances)
<b>Chemical Name</b>	<b>Test</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Methyl alcohol (<0.1) CAS#: 67-56-1	Cytogenetic analysis	Mouse	1000 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**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

**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 Reproductive Toxicity Data**

**Oral Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Woman TD <sub>Lo</sub>	4676280 mg/kg	100 days	<b>Effects on Newborn</b>  Delayed effects <b>Specific Developmental Abnormalities</b> Craniofacial (including nose and tongue)	RTECS (Registry of Toxic Effects of Chemical Substances)
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat TD <sub>Lo</sub>	4118 mg/kg	10 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death e.g. stunted fetus) <b>Specific Developmental Abnormalities</b> Ear Eye Urogenital System	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Woman TD <sub>Lo</sub>	41000 mg/kg	41 weeks	<b>Effects on Newborn</b>  Drug dependence Other neonatal measures or effects	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Woman TD <sub>Lo</sub>	250 mg/kg	37 weeks	<b>Effects on Embryo or Fetus</b> Other effects	RTECS (Registry of Toxic Effects of Chemical Substances)

**Dermal Exposure Route**

No data available

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

No data available

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Rat TC <sub>Lo</sub>	0.0026 mg/L	22 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death e.g. stunted fetus)	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Vapor) Exposure Route**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methyl alcohol (<0.1) CAS#: 67-56-1	Mouse TC <sub>Lo</sub>	1500 mg/L	7-9 days	<b>Specific Developmental Abnormalities</b> Central Nervous System	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Gas) Exposure Route**

No data available

**12. ECOLOGICAL INFORMATION**

**Ecotoxicity**

Based on the classification principles, not classified as hazardous to the environment.

**Product Ecological Data**

**Aquatic toxicity**

**Fish**

No data available

**Crustacea**

No data available

**Algae**

No data available

**Terrestrial toxicity**

**Soil**

No data available

**Vertebrates**

No data available

**Invertebrates**

No data available

**Ingredient Ecological Data**

**Aquatic toxicity**

**Fish**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	14200 mg/L	PEEN (Pan European Ecological Network)
Methyl alcohol (<0.1) CAS#: 67-56-1	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	15000 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Crustacea**

Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethyl alcohol (0.1 - 1)	48 Hours	<i>Daphnia magna</i>	LC <sub>50</sub>	3715 mg/L	PEEN (Pan European Ecological Network)

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CAS#: 64-17-5					
Methyl alcohol (<0.1) CAS#: 67-56-1	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub> LC <sub>50</sub>	2500 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Algae** Toxicological data for ingredients is not indicative of likely harm.

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	96 hours	<i>Chlorella vulgaris</i>	EC <sub>50</sub>	675 mg/L	PEEN (Pan European Ecological Network)

### Terrestrial toxicity

**Soil** No data available  
**Vertebrates** No data available  
**Invertebrates** No data available

### Other Information

#### Persistence and degradability

None known.

#### Product Biodegradability Data

If available, see ingredient data below.

#### Ingredient Biodegradability Data

Test data reported below

#### Bioaccumulation

None known.

#### Product Bioaccumulation Data

Test data reported below.

#### Ingredient Bioaccumulation Data

No data available

### Additional information

#### Product Information

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

Not applicable

#### Ingredient Information

Chemical Name	Partition Coefficient (n-octanol/water)	Method
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	log K <sub>ow</sub> = -0.31	No information available
Methyl alcohol (<0.1) CAS#: 67-56-1	log K <sub>ow</sub> = -0.7	No information available

### Mobility

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Mobility in soil: High mobility. If available, see ingredient data below.

**Product Information**

**Soil Organic Carbon-Water Partition Coefficient** Not applicable

**Ingredient Information**

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	log K <sub>oc</sub> = 0.34	Estimation through KOCWIN v2.00 part of the Estimation Programs Interface (EPI) Suite™
Methyl alcohol (<0.1) CAS#: 67-56-1	log K <sub>oc</sub> = 0.44	No information available

**Additional information**

**Water solubility**

**Product Information**

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

**Ingredient Information**

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Ethyl alcohol (0.1 - 1) CAS#: 64-17-5	Completely soluble	> 1000000 mg/L	20 °C	68 °F
Methyl alcohol (<0.1) CAS#: 67-56-1	Soluble	> 1000 mg/L	25 °C	77 °F

**Other adverse effects**

Contains a substance with an endocrine-disrupting potential.

**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

**Disposal of wastes** Disposal should be in accordance with applicable regional, national, and local laws and regulations.

**Contaminated packaging** Dispose of in accordance with federal, state and local regulations.

**US EPA Waste Number** Not applicable, U154

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Methyl alcohol 67-56-1	-	Included in waste stream: F039	-	U154

**Special instructions for disposal** Dilute to 3 to 5 times the volume with cold water. If permitted by regulation. Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.



Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

#### 14. TRANSPORT INFORMATION

<b>DOT</b>	Not regulated
<b>TDG</b>	Not regulated
<b>IATA</b>	Not regulated
<b>IMDG</b>	Not regulated
<b>Note:</b>	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

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies

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

##### International Inventories

<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>TCSI</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	SARA 313 - Threshold Values %
Methyl alcohol (CAS #: 67-56-1)	1.0

##### SARA 311/312 Hazard Categories

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Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	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 CFR 122.42)

**CERCLA**

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Methyl alcohol 67-56-1	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Ethyl alcohol (CAS #: 64-17-5)	Carcinogen Developmental
Methyl alcohol (CAS #: 67-56-1)	Developmental

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ethyl alcohol 64-17-5	X	X	X
Methyl alcohol 67-56-1	X	X	X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

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

**NFPA and HMIS Classifications**

NFPA	Health hazards - 0	Flammability - 0	Instability - 0	Physical and Chemical Properties -
HMIS	Health hazards - 0	Flammability - 0	Physical hazards - 0	Personal protection - X - See section 8 for more information

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

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

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**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		

**Prepared By** Hach Product Compliance Department

**Issue Date** 06-Jul-2016

**Revision Date** 02-Sep-2016

**Revision Note** 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**