



**Be Right™**

# SAFETY DATA SHEET

Issue Date 09-Mar-2016

Revision Date 12-Aug-2016

Version 2

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## 1. IDENTIFICATION

### Product identifier

**Product Name** Chloroform

### Other means of identification

**Product Code(s)**

1445849

**Safety data sheet number** M00190

**UN/ID no** UN1888

**Component of Kits or Sets** 143203; 143203K; 2243500; 2243500K; 2446700; 2481300; 2481300K

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

**Recommended Use** Laboratory Use. Solvent.

**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** Chloroform

**Formula** CHCl<sub>3</sub>

**CAS No** 67-66-3

**Alternate CAS Number** Not applicable

**NIOSH (RTECS) Number** FS9100000

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

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

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 3
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 2
Reproductive toxicity	Category 2

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Specific target organ toxicity (repeated exposure)	Category 2
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**Hazards not otherwise classified (HNOC)**

Not applicable

**Label elements**

**Signal word** - Danger



**Hazard statements**

H302 - Harmful if swallowed  
H331 - Toxic if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H351 - Suspected of causing cancer  
H361 - Suspected of damaging fertility or the unborn child  
H373 - May cause damage to organs through prolonged or repeated exposure

**Precautionary statements**

P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P281 - Use personal protective equipment as required  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
P311 - Call a POISON CENTER or doctor/physician  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P332 + P313 - If skin irritation occurs: Get medical advice/attention  
P362 - Take off contaminated clothing and wash before reuse  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
P330 - Rinse mouth  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Information**

Harmful to aquatic life

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

**Chemical Family** Halogenated hydrocarbons.

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**Formula** CHCl<sub>3</sub>

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Chloroform	67-66-3	100	-

#### 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. Call a physician immediately.
<b>Ingestion</b>	IF SWALLOWED: Rinse Mouth. Call a physician immediately.
<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

Carbon dioxide. Alcohol foam. Dry chemical.

**Unsuitable extinguishing media** Caution: Use of water spray when fighting fire may be inefficient.

##### Flammable properties

Substance does not burn. During a fire, corrosive and toxic gases may be generated by thermal decomposition.

##### Specific hazards arising from the chemical

May react violently with: alkali metals. aluminum / aluminum compounds. Strong bases.

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

##### Protective equipment and precautions for firefighters

Water runoff can cause environmental damage. Dike and collect water used to fight fire.

#### 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**

151

**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 container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a cool, well-ventilated place. Keep in properly labeled containers.

**Flammability class**

Not applicable

**Incompatible materials**

alkali metals. Aluminum. Caustics. coatings (such as paint, varnish, wax, lacquer, etc.). plastics. rubber.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Control parameters**

**Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chloroform	TWA: 10 ppm	(vacated) TWA: 2 ppm	IDLH: 500 ppm

100	(vacated) TWA: 9.78 mg/m <sup>3</sup> Ceiling: 50 ppm Ceiling: 240 mg/m <sup>3</sup>	STEL: 2 ppm 60 min STEL: 9.78 mg/m <sup>3</sup> 60 min
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Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL
Chloroform 100	TWA: 10 ppm TWA: 49 mg/m <sup>3</sup>	TWA: 2 ppm R	TWA: 10 ppm	TWA: 10 ppm TWA: 49 mg/m <sup>3</sup>	TWA: 10 ppm

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Chloroform 100	NDF	TWA: 10 ppm	NDF	TWA: 10 ppm	TWA: 10 ppm

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Chloroform 100	TWA: 5 ppm TWA: 24.4 mg/m <sup>3</sup>	NDF	TWA: 10 ppm TWA: 50 mg/m <sup>3</sup>

**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 tight sealing safety goggles and/or face protection shield.

**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

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

#### Information on basic physical and chemical properties

**Physical state** Liquid

**Gas Under Pressure** Not classified according to GHS criteria

**Appearance** No information available **Color** colorless

**Odor** Ether-like **Odor threshold** 200 ppm

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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Molecular weight</b>	119.38 g/mole	
<b>pH</b>	No data available	
<b>Melting point/freezing point</b>	-64 °C / -83 °F	
<b>Boiling point / boiling range</b>	61 °C / 142 °F	
<b>Evaporation rate</b>	0.6 (ether = 1)	
<b>Vapor pressure</b>	159.016 mm Hg / 21.2 kPa at 20 °C / 68 °F	
<b>Vapor density (air = 1)</b>	4.1	
<b>Specific gravity (water = 1 / air = 1)</b>	1.49	
<b>Partition Coefficient (n-octanol/water)</b>	log K <sub>OW</sub> = 1.97	
<b>Soil Organic Carbon-Water Partition Coefficient</b>	log K <sub>OC</sub> = 1.71	
<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	

#### Solubility(ies)

##### **Water solubility**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	7450 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>
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F
Benzene	Soluble	> 1000 mg/L	25 °C / 77 °F
Carbon disulfide	Soluble	> 1000 mg/L	25 °C / 77 °F
Carbon tetrachloride	Soluble	> 1000 mg/L	25 °C / 77 °F
Ether	Soluble	> 1000 mg/L	25 °C / 77 °F

#### Other Information

<b>Metal Corrosivity</b>	Not classified as corrosive to metal according to GHS criteria
<b>Steel Corrosion Rate</b>	No data available
<b>Aluminum Corrosion Rate</b>	No data available
<b>Volatile Organic Compounds (VOC) Content</b>	This Product is by Weight 100% an Individual Pure Chemical Substance. See ingredients information below.
<b>Bulk density</b>	Not applicable
<b>Explosive properties</b>	Not classified according to GHS criteria.

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**Explosion data**

No data available

**Upper explosion limit**

No data available

**Lower explosion limit**

No data available

**Flammable properties**

Substance does not burn. During a fire, corrosive and toxic gases may be generated by thermal decomposition.

**Flammability Limit in Air**

**Upper flammability limit:**

No data available

**Lower flammability limit:**

No data available

**Flash point**

No data available

**Method**

No information available

**Oxidizing properties**

Not classified according to GHS criteria.

**Reactivity properties**

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**

None reported

**Possibility of Hazardous Reactions**

None under normal processing.

**Hazardous polymerization**

Hazardous polymerization does not occur.

**Conditions to avoid**

Exposure to air. Exposure to light. Extreme temperatures. Heating to decomposition. Poor Ventilation.

**Incompatible materials**

alkali metals. Aluminum. Caustics. coatings (such as paint, varnish, wax, lacquer, etc.). plastics. rubber.

**Hazardous Decomposition Products**

Phosgene. Chlorides. Carbon monoxide.

**Explosive properties**

Not classified according to GHS criteria.

**Upper explosion limit**

No data available

**Lower explosion limit**

No data available

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**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>	Toxic if inhaled. Causes skin irritation. Causes eye irritation. Harmful if swallowed. Causes serious eye irritation.
<b>Inhalation</b>	Avoid breathing dust/fume/gas/mist/vapors/spray. Toxic by inhalation. Immediate medical attention is required.
<b>Eye contact</b>	Contact with eyes may cause irritation. Severely irritating to eyes.
<b>Skin contact</b>	Causes skin irritation.
<b>Ingestion</b>	Harmful if swallowed. Ingestion may cause irritation to mucous membranes.
<b>Aggravated Medical Conditions</b>	Skin disorders. Eye disorders.
<b>Toxicologically synergistic products</b>	Exposure to and/or consumption of alcohol may increase toxic effects of this product.
<b>Toxicokinetics, metabolism and distribution</b>	This Product is by Weight 100% an Individual Pure Chemical Substance. See ingredients information below.

<b>Chemical Name</b>	<b>Toxicokinetics, metabolism and distribution</b>
Chloroform (100) CAS#: 67-66-3	A specific liver enzyme converts chloroform into toxic metabolites resulting in hepatotoxicity.

**Product Acute Toxicity Data**

This Product is by Weight 100% an Individual Pure Chemical Substance

**Oral Exposure Route**

If available, see ingredient data below

**Dermal Exposure Route**

If available, see ingredient data below

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

If available, see ingredient data below

**Inhalation (Vapor) Exposure Route**

If available, see ingredient data below

**Inhalation (Gas) Exposure Route**

If available, see ingredient data below

**Acute Toxicity Estimations (ATE)**

Not applicable

**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>
Chloroform (100) CAS#: 67-66-3	Mouse	500 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>



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Chloroform (100) CAS#: 67-66-3	Rat LD <sub>50</sub>	300 - 695 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>
Chloroform (100) CAS#: 67-66-3	Man LD <sub>Lo</sub>	2514 mg/kg	None reported	<b>Kidney, Ureter, or Bladder</b> Changes in tubules (including acute renal failure, acute tubular necrosis)	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>
Chloroform (100) CAS#: 67-66-3	Rabbit LD <sub>50</sub>	> 20000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Inhalation (Dust/Mist) 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>
Chloroform (100) CAS#: 67-66-3	Rat LC <sub>50</sub>	4.7702 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Inhalation (Vapor) Exposure Route

No data available

<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>
Chloroform (100) CAS#: 67-66-3	Human TC <sub>Lo</sub>	171 mg/L	4 hours	<b>Behavioral</b> Hallucinations, Distorted perceptions	RTECS (Registry of Toxic Effects of Chemical Substances)

#### Inhalation (Gas) Exposure Route

No data available

#### Product Skin Corrosion/Irritation Data

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

#### Ingredient Skin Corrosion/Irritation Data

<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Chloroform (100) CAS#: 67-66-3	Open Irritation Test	Rabbit	10 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

#### Ingredient Eye Damage/Eye Irritation Data

<b>Chemical Name</b>	<b>Test method</b>	<b>Species</b>	<b>Reported dose</b>	<b>Exposure time</b>	<b>Results</b>	<b>Key literature references and sources for data</b>
Chloroform (100) CAS#: 67-66-3	Standard Draize Test	Rabbit	20 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)

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### Sensitization Information

#### Product Sensitization Data

##### **Skin Sensitization Exposure Route**

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

##### **Respiratory Sensitization Exposure Route**

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

#### Ingredient Sensitization Data

##### **Skin Sensitization Exposure Route**

No data available.

##### **Respiratory Sensitization Exposure Route**

No data available.

### Chronic Toxicity Information

#### Product Repeat Dose Toxicity Data

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

If available, see ingredient data below.

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

If available, see ingredient data below.

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

If available, see ingredient data below.

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

If available, see ingredient data below.

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

If available, see ingredient data below.

#### 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
Chloroform (100) CAS#: 67-66-3	Rat TD <sub>Lo</sub>	540 mg/kg	3 days	<b>Biochemical</b> Intermediary metabolism (other proteins) <b>Kidney, Ureter, or Bladder</b> Changes in tubules (including acute renal failure, acute tubular necrosis)	RTECS (Registry of Toxic Effects of Chemical Substances)

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

No data available

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

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (100) CAS#: 67-66-3	Rat TC <sub>Lo</sub>	90 mg/L	90 days	<b>Kidney, Ureter, or Bladder</b> Changes in tubules (including acute renal failure, acute tubular necrosis) <b>Liver</b> Hepatitis (hepatocellular necrosis), diffuse <b>Nutritional and Gross Metabolic</b> Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

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

Chemical Name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
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	type	dose	time		sources for data
Chloroform (100) CAS#: 67-66-3	Human TC <sub>Lo</sub>	0.010 mg/L	365 days	<b>Gastrointestinal</b> Nausea or vomiting Other changes	RTECS (Registry of Toxic Effects of Chemical Substances)

**Inhalation (Gas) Exposure Route**

No data available

Chemical Name	CAS No	ACGIH	IARC	NTP	OSHA
Chloroform	67-66-3	A3	Group 2B	Reasonably Anticipated	X

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	A3 - Animal Carcinogen
<b>IARC (International Agency for Research on Cancer)</b>	Group 2B - Possibly Carcinogenic to Humans
<b>NTP (National Toxicology Program)</b>	Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	X - Present

**Product Carcinogenicity Data**

This Product is by Weight 100% an Individual Pure Chemical  
Substance

**Oral Exposure Route**

If available, see ingredient data below

**Dermal Exposure Route**

If available, see ingredient data below

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

If available, see ingredient data below

**Inhalation (Vapor) Exposure Route**

If available, see ingredient data below

**Inhalation (Gas) Exposure Route**

If available, see ingredient data below

**Ingredient Carcinogenicity 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

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

This Product is by Weight 100% an Individual Pure Chemical Substance. If available, see ingredient data below.

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

No data available

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

This Product is by Weight 100% an Individual Pure Chemical Substance.

**Oral Exposure Route**

If available, see ingredient data below

**Dermal Exposure Route**

If available, see ingredient data below

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

If available, see ingredient data below

**Inhalation (Vapor) Exposure Route**

If available, see ingredient data below

**Inhalation (Gas) Exposure Route**

If available, see ingredient data below

**Ingredient Germ Cell Mutagenicity *in vivo* 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

**Product Reproductive Toxicity Data**

This Product is by Weight 100% an Individual Pure Chemical Substance.

**Oral Exposure Route**

If available, see ingredient data below

**Dermal Exposure Route**

If available, see ingredient data below

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

If available, see ingredient data below

**Inhalation (Vapor) Exposure Route**

If available, see ingredient data below

**Inhalation (Gas) Exposure Route**

If available, see ingredient data below

**Ingredient Reproductive 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

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Harmful to aquatic life.

**Product Ecological Data**

This Product is by Weight 100% an Individual Pure Chemical Substance

**Aquatic toxicity**

**Fish**

If available, see ingredient data below

**Crustacea**

If available, see ingredient data below

**Algae**

If available, see ingredient data below

**Terrestrial toxicity**

**Soil**

If available, see ingredient data below

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**Vertebrates**

If available, see ingredient data below

**Invertebrates**

If available, see ingredient data below

**Ingredient Ecological Data**

**Aquatic toxicity**

**Fish**

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100) CAS#: 67-66-3	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	18 mg/L	IUCLID (The International Uniform Chemical Information Database)
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100) CAS#: 67-66-3	96 hours	<i>Lepomis macrochirus</i>	LC <sub>50</sub>	18 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Crustacea**

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100) CAS#: 67-66-3	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	29 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Algae**

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (100) CAS#: 67-66-3	48 hours	<i>Desmodesmus subspicatus</i>	EC <sub>50</sub>	560 mg/L	IUCLID (The International Uniform Chemical Information Database)

**Terrestrial toxicity**

**Soil**

No data available

**Vertebrates**

No data available

**Invertebrates**

No data available

**Other Information**

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL):  
Environmentally Hazardous Substances Categorizations

**Persistence and degradability**

None known.

**Product Biodegradability Data**

This Product is by Weight 100% an Individual Pure Chemical Substance.

**Ingredient Biodegradability Data**

No data available

**Bioaccumulation**

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Does not have the potential to bioaccumulate according to GHS criteria. If available, see ingredient data below.

**Product Bioaccumulation Data**

This Product is by Weight 100% an Individual Pure Chemical Substance. Test data reported below.

**Ingredient Bioaccumulation Data**

No data available

**Additional information**

**Product Information**

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

$\log K_{ow} = 1.97$

**Ingredient Information**

Chemical Name	Partition Coefficient (n-octanol/water)	Method
Chloroform (100) CAS#: 67-66-3	$\log K_{ow} = 1.97$	No information available

**Mobility**

Mobility in soil: Moderate to high mobility. If available, see ingredient data below.

**Product Information**

**Soil Organic Carbon-Water Partition Coefficient**

$\log K_{oc} = 1.71$

**Ingredient Information**

Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Chloroform (100) CAS#: 67-66-3	$\log K_{oc} = 1.71$	No information available

**Additional information**

**Water solubility**

**Product Information**

<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	7450 mg/L	25 °C / 77 °F

**Ingredient Information**

Chemical Name	Water solubility classification	Water solubility	Water solubility temperature °C	Water solubility temperature °F
Chloroform (100) CAS#: 67-66-3	Soluble	7450 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

Working in a well-ventilated area,. Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. Dispose of empty container as normal trash. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste in countries other than the US. Improper disposal or reuse of this container may be dangerous and illegal. Disposal should be in accordance with applicable regional, national and local laws and regulations.

##### US EPA Waste Number

U044

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Chloroform 67-66-3	U044	Included in waste streams: F024, F025, F039, K009, K010, K019, K020, K021, K029, K073, K116, K149, K150, K151, K158	6.0 mg/L regulatory level	U044

Chemical Name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Chloroform 67-66-3	Category I - Volatiles	-	Toxic waste waste number F025 Waste description: Condensed light ends, spent filters and filter aids, and spent desiccant wastes from the production of certain chlorinated aliphatic hydrocarbons, by free radical catalyzed processes. These chlorinated aliphatic hydrocarbons are those having carbon chain lengths ranging from one to and including five, with varying amounts and positions of chlorine substitution.	Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes production.

##### Special instructions for disposal

Dispose of material in an E.P.A. approved hazardous waste facility.

### 14. TRANSPORT INFORMATION

#### DOT

UN/ID no UN1888  
Proper shipping name Chloroform  
Hazard Class 6.1  
Packing Group III  
Emergency Response Guide Number 151

#### TDG

UN/ID no UN1888  
Proper shipping name Chloroform  
Hazard Class 6.1

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**Packing Group** III

**IATA**

**UN/ID no** UN1888  
**Proper shipping name** Chloroform  
**Hazard Class** 6.1  
**Packing Group** III  
**ERG Code** 151

**IMDG**

**UN/ID no** UN1888  
**Proper shipping name** Chloroform  
**Hazard Class** 6.1  
**Packing Group** III

**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** Complies  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Complies  
**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

Chemical Name	SARA 313 - Threshold Values %
Chloroform (CAS #: 67-66-3)	0.1

**SARA 311/312 Hazard Categories**



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<b>Acute health hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire hazard</b>	No
<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 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Chloroform 67-66-3	10 lb	X	X	X

**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)
Chloroform 67-66-3	10 lb 1 lb	10 lb	RQ 10 lb final RQ RQ 4.54 kg final RQ RQ 1 lb final RQ RQ 0.454 kg final RQ

**U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues**

Chemical Name	U.S. - Department of Homeland Security - Chemical Facility Anti-Terrorism Standards (CFATS) - Security Issues
Chloroform (100) CAS#: 67-66-3	Release - Toxic

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical Name	California Proposition 65
Chloroform (CAS #: 67-66-3)	Carcinogen Developmental

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

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Chloroform 67-66-3	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**

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<b>NFPA</b>	<b>Health hazards</b> - 2	<b>Flammability</b> - 0	<b>Instability</b> - 0	<b>Physical and Chemical Properties</b> -
<b>HMIS</b>	<b>Health hazards</b> - 2	<b>Flammability</b> - 0	<b>Physical hazards</b> - 0	<b>Personal protection</b> - X - 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		

**Prepared By** Hach Product Compliance Department

**Issue Date** 09-Mar-2016

**Revision Date** 12-Aug-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**