



Be Right™

# SAFETY DATA SHEET

Issue Date 09-Mar-2016

Revision Date 29-Mar-2018

Version 4.2

Page 1 / 15

## Section 1: PRODUCT AND COMPANY IDENTIFICATION

### Product identifier

Product Code(s) 1445800  
Product Name Chloroform

### Other means of identification

Safety data sheet number M00190  
UN/ID no UN1888

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

Recommended Use Laboratory Use. Solvent.  
Restrictions on use None.  
Uses advised against None

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

#### Supplier Address

Hexis Cientifica Ltda CNPJ: 53.276.010 / 00001-10 Av. Antonieta Piva Barranqueiros, 385 - Industrial District - Jundiai - SP -  
Phone: 11 4589-2672

#### Manufacturer Address

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

### Emergency telephone number

#### Argentina

+(54)-1159839431

#### Costa Rica

Costa Rica National Poison Center: +506-2223-1028

#### United States of America

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

## Section 2: HAZARDS IDENTIFICATION

### GHS Classification

#### Most Important Hazards

According to ABNT NBR 14725-2

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
Respiratory sensitization	
Skin sensitization	
Mutagenicity	
Carcinogenicity	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity (single exposure)	
Specific target organ toxicity (repeated exposure)	Category 2

Aquatic Acute Toxicity

Category 3

**Label elements**



Signal word - Danger

**Hazard statements**

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H331 - Toxic if inhaled  
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  
H402 - Harmful to aquatic life

**Precautionary statements**

P270 - Do not eat, drink or smoke when using this product  
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
P330 - Rinse mouth  
P271 - Use only outdoors or in a well-ventilated area  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing  
P311 - Call a POISON CENTER or doctor  
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
P302 + P352 - IF ON SKIN: Wash with plenty of water and soap  
P332 + P313 - If skin irritation occurs: Get medical advice/attention  
P362 + P364 - Take off all contaminated clothing and wash it 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  
P337 + P313 - If eye irritation persists: Get medical advice/attention  
P201 - Obtain special instructions before use  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P308 + P313 - IF exposed or concerned: Get medical advice/attention  
P405 - Store locked up  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P273 - Avoid release to the environment  
P501 - Dispose of contents/ container to an approved waste disposal plant

**Other Hazards Known**

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**

Raw Material/Pure Substance      Substance

Chemical Name                              Chloroform  
Chemical Family                             Halogenated hydrocarbons

CAS No                                         67-66-3  
Formula                                         CHCl<sub>3</sub>

Chemical name	CAS No.	Percent Range
Chloroform	67-66-3	100%

## Section 4: FIRST AID MEASURES

### Description of necessary first aid measures

#### General advice

Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention. Immediate medical attention is required.

#### Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur. If breathing has stopped, give artificial respiration. Get medical attention immediately. Immediate medical attention is required. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen.

#### Skin contact

Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical attention if irritation develops and persists.

#### Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.

#### Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately.

### For emergency responders

#### Self-protection of the first aider

Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Do not breathe vapor or mist.

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

#### Symptoms

Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

### Indication of immediate medical attention and special treatment needed, if necessary

#### Note to physicians

Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

### Suitable Extinguishing Media

#### Suitable Extinguishing Media

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

#### Unsuitable Extinguishing Media

No information available

### Specific hazards arising from the chemical

#### Specific hazards arising from the chemical

No information available.

### Flammable properties

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

### Explosive properties

Not classified according to GHS criteria.

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

**Specific/special fire-fighting measures**

**Specific/special fire-fighting measures** No information available.

**Special protective equipment and precautions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

## Section 6: ACCIDENTAL RELEASE MEASURES

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

**Personal precautions** Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Do not breathe vapor or mist. Keep people away from and upwind of spill/leak.

**For emergency responders** Use personal protective equipment as required.

**Environmental precautions**

**Environmental precautions** Prevent further leakage or spillage if safe to do so.

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

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**Reference to other sections** See section 8 for more information.  
See section 13 for more information.

## Section 7: HANDLING AND STORAGE

**Preventive measures for safe handling**

**Advice on safe handling** 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. Do not breathe vapor or mist. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation.

**Precautions for safe handling**

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

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

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

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

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**Exposure Guidelines**

Chemical name	Brazil	Chile	Argentina	Venezuela
Chloroform 'CAS #:' 67-66-3	TWA: 20 ppm TWA: 94 mg/m <sup>3</sup>	TWA: 9 ppm TWA: 43 mg/m <sup>3</sup>	TWA: 10 ppm	Skin TWA: 10 ppm

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Chloroform 100%	TWA: 10 ppm	(vacated) TWA: 2 ppm (vacated) TWA: 9.78 mg/m <sup>3</sup> Ceiling: 50 ppm Ceiling: 240 mg/m <sup>3</sup>	IDLH: 500 ppm STEL: 2 ppm 60 min STEL: 9.78 mg/m <sup>3</sup> 60 min

**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**

**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** If splashes are likely to occur, wear safety glasses with side-shields.

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

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

**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.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

**Information on basic physical and chemical properties**

**Physical state** Liquid  
**Appearance** No information available  
**Color** colorless  
**Odor** Ether-like  
**Odor threshold** 200 ppm

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	119.38 g/mole	
pH	No data available	
Melting point/freezing point	-64 °C / -83 °F	
Boiling point / boiling range	61 °C / 142 °F	

**Product Code(s)** 1445800  
**Issue Date** 09-Mar-2016  
**Version** 4.2

**Product Name** Chloroform  
**Revision Date** 29-Mar-2018  
**Page** 6 / 15

**Evaporation rate** 0.6 (ether = 1)  
**Vapor pressure** 159.016 mm Hg / 21.2 kPa at 20 °C / 68 °F  
**Vapor density (air = 1)** 4.1  
**Specific gravity (water = 1 / air = 1)** 1.49  
**Partition Coefficient (n-octanol/water)** log K<sub>ow</sub> = 1.97  
**Soil Organic Carbon-Water Partition Coefficient** log K<sub>oc</sub> = 1.71  
**Autoignition temperature** No data available  
**Decomposition temperature** No data available  
**Dynamic viscosity** No data available  
**Kinematic viscosity** 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

##### Metal Corrosivity

**Steel Corrosion Rate** No data available  
**Aluminum Corrosion Rate** No data available

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

This Product is by Weight 100% an Individual Pure Chemical Substance See ingredients information below

<u>Chemical name</u>	<u>CAS No.</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
Chloroform	67-66-3	100%	X

##### Explosive properties

**Upper explosion limit** No data available  
**Lower explosion limit** No data available

##### Flammable properties

**Flash point** No data available

##### Flammability Limit in Air

**Product Code(s)** 1445800  
**Issue Date** 09-Mar-2016  
**Version** 4.2

**Product Name** Chloroform  
**Revision Date** 29-Mar-2018  
**Page** 7 / 15

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

No data available  
No data available

**Oxidizing properties**

No data available.

**Bulk density**

Not applicable

**Particle Size**

No information available

**Particle Size Distribution**

No information available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Not applicable.

### Chemical stability

**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**

Excessive heat.

### Incompatible materials

**Incompatible materials**

Strong acids. Strong bases. Strong oxidizing agents.

### Hazardous Decomposition Products

Phosgene. Chlorides. Carbon monoxide.

## Section 11: TOXICOLOGICAL INFORMATION

### Information on Likely Routes of Exposure

#### **Product Information**

**Inhalation**

Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract. Toxic by inhalation. (based on components).

**Eye contact**

Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.

**Skin contact**

Specific test data for the substance or mixture is not available. Causes skin irritation. (based on components).

**Ingestion**

Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

**Symptoms**

Redness. May cause redness and tearing of the eyes. Coughing and/ or wheezing. Difficulty in breathing.

**Aggravated Medical Conditions** Skin disorders. Eye disorders. cardiovascular. Preexisting eye disorders. Kidney disorders.

**Toxicologically synergistic products** Liver disorders. heart.  
 Exposure to and/or consumption of alcohol may increase toxic effects of this product.

**Toxicokinetics, metabolism and distribution** This Product is by Weight 100% an Individual Pure Chemical Substance. See ingredients information below.

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

**Product Acute Toxicity Data**

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

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

**Unknown Acute Toxicity**

0% of the mixture consists of ingredient(s) of unknown toxicity.

**Acute Toxicity Estimations (ATE)**

Not applicable

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

<b>Oral LD50</b>	No information available
<b>Dermal LD50</b>	No information available
<b>Mist</b>	No information available
<b>Vapor</b>	No information available
<b>Gas</b>	No information available

**Ingredient Acute Toxicity Data**

**Oral Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
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)

**Dermal Exposure Route**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
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**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
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**

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**

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 Specific Target Organ Toxicity Single Exposure Data**

**Oral Exposure Route** If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
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** 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
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** If available, see data below

**Aspiration toxicity**

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**

If available, see data below

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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**

If available, see data below

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

**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**

If available, see data below.

**Respiratory Sensitization Exposure Route**

If available, see data below.

**Chronic Toxicity Information**

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

**Oral Exposure Route**

If available, see data below

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**

If available, see data below

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

If available, see data below

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**

If available, see data below

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and 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**

If available, see data below

**Product Carcinogenicity 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 Carcinogenicity Data**

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
--	------------------------

IARC (International Agency for Research on Cancer)	Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)	Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	X - Present

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 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**

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 Germ Cell Mutagenicity *invivo* 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 Reproductive 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 Reproductive Toxicity Data**

Oral 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

**Section 12: ECOLOGICAL INFORMATION**

**Ecotoxicity** Harmful to aquatic life

**Unknown Aquatic Toxicity** 0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

**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

**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
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)

**Crustacea**

If available, see ingredient data below

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**

If available, see ingredient data below

**Other Information**

**Persistence and degradability**

**Product Biodegradability Data**

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

**Ingredient Biodegradability Data**

**Bioaccumulation**

**Product Bioaccumulation Data**

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

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

log K<sub>ow</sub> = 1.97

**Ingredient Bioaccumulation Data**

**Mobility**

**Soil Organic Carbon-Water Partition Coefficient**

log K<sub>oc</sub> = 1.71

**Water solubility**

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

**Other adverse effects**

Contains a substance with an endocrine-disrupting potential.

**Section 13: DISPOSAL CONSIDERATIONS**

**Disposal 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.

## Section 14: TRANSPORT INFORMATION

### U.S. DOT

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

Emergency Response Guide Number 151

### IMDG

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

### IATA

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

### ADR

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.

## Section 15: REGULATORY INFORMATION

### International Inventories

TSCA	Complies
DSL/NDL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
TCSI	Complies
AICS	Complies
NZIoC	Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

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

**Product Code(s)** 1445800  
**Issue Date** 09-Mar-2016  
**Version** 4.2

**Product Name** Chloroform  
**Revision Date** 29-Mar-2018  
**Page** 14 / 15

**NZIoC** - New Zealand Inventory of Chemicals

### Country Regulations

#### **Brazil**

Federal Decree No. 2.657, July 3, 1998  
Standard ABNT NBR 14725-3  
Ordinance No. 229, May 24, 2011 - Changes to Regulatory Standard No. 26  
Standard ABNT NBR 14725-4  
Resolution no. 420/2004 - ANTT  
Resolution no. 5.232 / 2016 - ANTT  
NR 15 Ministry of Labor and Employment  
Ordinance no. 1274 / 2003  
Federal Decree 3.665 / 2000  
Law no. 12.305 / 10  
Law no. 10.357 / 2001

#### **Argentina**

SRT 3359/2015  
Resolution 801/2015  
Law of Health and Safety and Work (Law 19,587)  
Decree 351/79  
Regulatory Law 19587

#### **Columbia**

Law 253, 1996: Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal.  
Resolution 2400/1979: Ministry of Labour and Social Security, ACGIH Exposure Limits.  
Decision 602, Andean Regulation for the Control of chemical substances used in the illegal manufacture of narcotic drugs and psychotropic substances.  
Law 29/1992: Montreal Protocol on Substances that Deplete the Ozone Layer and its Amendments.  
Law 55/1993: Recommendation No. 177 on the International Work Conference on Safety in the Use of Chemical Products at Work.  
Law 30/1990: Vienna Convention for the Protection of the Ozone Layer.  
Law 55/1993: Convention No. 170 on the General Conference of the ILO.

#### **Uruguay**

Law 16.157: Approval of the Montreal Protocol on Substances that Deplete the Ozone Layer.  
Law 17.283: Regarding environmental protection and management of hazardous wastes.  
Presidential Decree 346/11: Implementation of GHS for all manufactured or distributed products.  
Presidential Decree 519/984: Regulates the activities relating to the use of radioactive materials and ionizing radiation throughout the country.

#### **Ecuador**

Law No. 37 - Environmental Management Act  
NTE INEN 2266:2013 - Requirements for Transport, Storage and Handling of Hazardous Materials  
Unified Text of Secondary Legislation of the Environment Ministry: Book VI

## Section 16: OTHER INFORMATION

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

<i>NIOSH IDLH</i>	<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)
Ceiling	Ceiling Limit Value	MAC	Maximum Allowable Concentration
X	Listed	Vacated	These values have no official status. The only

**Product Code(s)** 1445800  
**Issue Date** 09-Mar-2016  
**Version** 4.2

**Product Name** Chloroform  
**Revision Date** 29-Mar-2018  
**Page** 15 / 15

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		

**NIOSH (RTECS) Number** FS9100000

**Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed  
H331 - Toxic if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H351 - Suspected of causing cancer if swallowed  
H361d - Suspected of damaging the unborn child  
H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

**Key literature references and sources for data**

See Section 11: TOXICOLOGICAL INFORMATION  
See Section 12: ECOLOGICAL INFORMATION

<b>Issue Date</b>	09-Mar-2016
<b>Revision Date</b>	29-Mar-2018
<b>Revision Note</b>	None
<b>Restrictions on use</b>	None
<b>Training Advice</b>	IF exposed or concerned: Get medical advice/attention Specific treatment (see .? on this label) Specific treatment (see .? on this label)

**This material safety data sheet has been prepared according to Brazilian legislation and ABNT NBR 14725:2009**

**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**