



Be Right™

SAFETY DATA SHEET

Issue Date 14-Dec-2016

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1. IDENTIFICATION

Product identifier

Product Name Detergents Reagent

Other means of identification

Product Code(s) 105932

Safety data sheet number M00831

Recommended use of the chemical and restrictions on use

Recommended Use Determination of detergents.

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

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

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

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 2
Reproductive toxicity	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word - Danger

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Hazard statements

H315 - Causes skin irritation
H318 - Causes serious eye damage
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child

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
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
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
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/ container to an approved waste disposal plant

Other Information

Harmful to aquatic life with long lasting effects
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.

Percent ranges are used where confidential product information is applicable.

Chemical Name	CAS No	Percent Range	HMRIC #
Phosphoric acid, monosodium salt	7558-80-7	10 - 20%	-
Sulfuric acid	7664-93-9	1 - 5%	-
Chloroform	67-66-3	0.1 - 1%	-
Sodium arsenite	7784-46-5	<0.1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice	IF IN EYES: Flush eyes for at least 15 minutes.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If symptoms persist, call a physician.
Inhalation	IF INHALED: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.
Ingestion	IF SWALLOWED: Rinse Mouth. If symptoms persist, call a physician.
Self-protection of the first aider	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 Caution: Use of water spray when fighting fire may be inefficient.

Flammable properties

Substance does not burn.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

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 154

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 dry, cool and well-ventilated place. Keep in properly labeled containers.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sulfuric acid 1 - 5%	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³
Chloroform 0.1 - 1%	TWA: 10 ppm	(vacated) TWA: 2 ppm (vacated) TWA: 9.78 mg/m ³ Ceiling: 50 ppm Ceiling: 240 mg/m ³	IDLH: 500 ppm STEL: 2 ppm 60 min STEL: 9.78 mg/m ³ 60 min
Sodium arsenite <0.1%	TWA: 0.01 mg/m ³	TWA: 10 µg/m ³	IDLH: 5 mg/m ³ As Ceiling: 0.002 mg/m ³ As 15 min

Chemical Name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick OEL	New Foundland & Labrador OEL

Sulfuric acid 1 - 5%	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 0.2 mg/m ³
Chloroform 0.1 - 1%	TWA: 10 ppm TWA: 49 mg/m ³	TWA: 2 ppm R	TWA: 10 ppm	TWA: 10 ppm TWA: 49 mg/m ³	TWA: 10 ppm
Sodium arsenite <0.1%	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³

Chemical Name	Northwest Territories OEL	Nova Scotia OEL	Nunavut OEL	Ontario TWA	Prince Edward Island OEL
Sulfuric acid 1 - 5%	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³
Chloroform 0.1 - 1%	NDF	TWA: 10 ppm	NDF	TWA: 10 ppm	TWA: 10 ppm
Sodium arsenite <0.1%	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	TWA: 0.01 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.05 mg/m ³	TWA: 0.01 mg/m ³

Chemical Name	Quebec OEL	Saskatchewan OEL	Yukon OEL
Sulfuric acid 1 - 5%	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³	STEL: 1 mg/m ³ TWA: 1 mg/m ³
Chloroform 0.1 - 1%	TWA: 5 ppm TWA: 24.4 mg/m ³	NDF	TWA: 10 ppm TWA: 50 mg/m ³
Sodium arsenite <0.1%	TWA: 0.1 mg/m ³	TWA: 0.01 mg/m ³ STEL: 0.03 mg/m ³	STEL: 0.5 mg/m ³ TWA: 0.5 mg/m ³

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 Eyewash stations

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 Avoid breathing (dust, vapor, mist, gas). Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Wear suitable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Regular cleaning of equipment, work area and clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. Avoid prolonged or repeated contact with skin. Take off all contaminated clothing and wash it before reuse.

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

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Appearance aqueous solution

Color blue

Odor Not determined

Odor threshold No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	1.2	
Melting point/freezing point	~ -38 °C / -36 °F	Estimation based on theoretical calculation
Boiling point / boiling range	~ 110 °C / 230 °F	Estimation based on theoretical calculation
Evaporation rate	0.52 (water = 1)	
Vapor pressure	22.727 mm Hg / 3.03 kPa at 25 °C / 77 °F	Estimation based on theoretical calculation
Vapor density (air = 1)	0.63 (air = 1)	
Specific gravity (water = 1 / air = 1)	1.142	
Partition Coefficient (n-octanol/water)	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
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	> 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
Ethyl alcohol	Soluble	> 1000 mg/L	25 °C / 77 °F

Other Information

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

Steel Corrosion Rate No data available

Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content See ingredients information below.

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Bulk density	Not applicable
Explosive properties	Not classified according to GHS criteria.
Explosion data	Not Flammable, but reacts with most metals to form flammable hydrogen gas. During a fire, corrosive and toxic gases may be generated by thermal decomposition.
Upper explosion limit	No data available
Lower explosion limit	No data available
Flammable properties	Not classified as flammable according to GHS criteria.
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

Extreme temperatures. Heating to decomposition. Exposure to air or moisture over prolonged periods.

Incompatible materials

Oxidizers. Metals. Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Explosive properties

Not classified according to GHS criteria. Not Flammable, but reacts with most metals to form flammable hydrogen gas. During a fire, corrosive and toxic gases may be generated by thermal decomposition.

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

NIOSH (RTECS) Number None reported

Information on Likely Routes of Exposure

Product Information	Corrosive to eyes. Causes skin irritation.
Inhalation	No known effect based on information supplied.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause irritation to mucous membranes.
Aggravated Medical Conditions	Skin disorders. Eye disorders.
Toxicologically synergistic products	None known.
Toxicokinetics, metabolism and distribution	See ingredients information below.

Chemical Name	Toxicokinetics, metabolism and distribution
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	The corrosivity of sulfuric acid makes it difficult to assess its effects on metabolism. Its corrosivity is also the main contributor to acute deaths, therefore it is not classified for acute toxicity.
Chloroform (0.1 - 1%) CAS#: 67-66-3	A specific liver enzyme converts chloroform into toxic metabolites resulting in hepatotoxicity.

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

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

ATEmix (inhalation-dust/mist)	100.20 mg/L
ATEmix (inhalation-vapor)	600.00 mg/L

Ingredient Acute Toxicity Data

Oral Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Phosphoric acid, monosodium salt (10 - 20%) CAS#: 7558-80-7	Rat LD ₅₀	8290 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat LD ₅₀	41 mg/kg	None reported	None reported	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
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Rat LD ₅₀	2140 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chloroform (0.1 - 1%) CAS#: 67-66-3	Rat LD ₅₀	300 - 695 mg/kg	None reported	None reported	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
Chloroform (0.1 - 1%) CAS#: 67-66-3	Man LD _{Lo}	2514 mg/kg	None reported	Kidney, Ureter, or Bladder Changes in tubules (including acute renal failure, acute tubular necrosis)	RTECS (Registry of Toxic Effects of Chemical Substances)

Dermal Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Phosphoric acid, monosodium salt (10 - 20%) CAS#: 7558-80-7	Rabbit LD ₅₀	> 7940 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chloroform (0.1 - 1%) CAS#: 67-66-3	Rabbit LD ₅₀	> 20000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat LD ₅₀	150 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Chloroform (0.1 - 1%) CAS#: 67-66-3	Rat LC ₅₀	4.7702 mg/L	4 hours	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Rat LC ₅₀	0.510 mg/L	None reported	None reported	LOLI
Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Human TD _{Lo}	0.144 mg/L	5 minutes	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)
Chloroform (0.1 - 1%)	Human TC _{Lo}	171 mg/L	4 hours	Behavioral Hallucinations, Distorted	RTECS (Registry of Toxic Effects of Chemical Substances)

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CAS#: 67-66-3				perceptions	Substances)
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Inhalation (Gas) Exposure Route No data available

Product Skin Corrosion/Irritation Data

No data available.

<u>Test method</u>	<u>Species</u>	<u>Reported dose</u>	<u>Exposure time</u>	<u>Results</u>
United States Department of Transportation (DOT) Skin Corrosion Test	Rabbit	0.5 mL	4 hours	Not corrosive to skin

Ingredient Skin Corrosion/Irritation Data

Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid, monosodium salt (10 - 20%) CAS#: 7558-80-7	Existing human experience	Human	None reported	None reported	Mild skin irritant	No information available
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)
Chloroform (0.1 - 1%) CAS#: 67-66-3	Open Irritation Test	Rabbit	10 mg	24 hours	Mild skin irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Existing human experience	Human	None reported	None reported	Skin irritant	No information available

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
Phosphoric acid, monosodium salt (10 - 20%) CAS#: 7558-80-7	Standard Draize Test	Human	50 mg	None reported	Mild eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)
Chloroform (0.1 - 1%) CAS#: 67-66-3	Standard Draize Test	Rabbit	20 mg	24 hours	Eye irritant	RTECS (Registry of Toxic Effects of Chemical Substances)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Existing human experience	Human	None reported	None reported	Eye irritant	No information available
Chemical Name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Phosphoric acid, monosodium salt	Standard Draize Test	Rabbit	150 mg	None reported	Mild eye irritant	RTECS (Registry of Toxic Effects of

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(10 - 20%) CAS#: 7558-80-7						Chemical Substances)
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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 No data available.

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
Chloroform (0.1 - 1%) CAS#: 67-66-3	Rat TD _{Lo}	540 mg/kg	3 days	Biochemical Intermediary metabolism (other proteins) Kidney, Ureter, or Bladder 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 (0.1 - 1%) CAS#: 67-66-3	Rat TC _{Lo}	90 mg/L	90 days	Kidney, Ureter, or Bladder Changes in tubules (including acute renal failure, acute tubular necrosis) Liver Hepatitis (hepatocellular necrosis), diffuse Nutritional and Gross Metabolic Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Vapor) Exposure Route

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Human TC _{Lo}	.003 mg/L	168 days	Musculoskeletal Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)
Chloroform (0.1 - 1%) CAS#: 67-66-3	Human TC _{Lo}	0.010 mg/L	365 days	Gastrointestinal 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
Phosphoric acid, monosodium salt	7558-80-7	-	-	-	-
Sulfuric acid	7664-93-9	A2	Group 1	Known	X
Chloroform	67-66-3	A3	Group 2B	Reasonably Anticipated	X
Sodium arsenite	7784-46-5	A1	Group 1	Known	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	A2 - Suspected Human Carcinogen A3 - Animal Carcinogen
IARC (International Agency for Research on Cancer)	Group 1 - Carcinogenic to Humans Group 2B - Possibly Carcinogenic to Humans
NTP (National Toxicology Program)	Known - Known Carcinogen Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)	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

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

No data available.

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Ingredient Germ Cell Mutagenicity *invitro* Data

Chemical Name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	HSDB (Hazardous Substances Data Bank)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	DNA damage	Human liver	0.001 mmol/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	DNA damage	Human lung	0.001 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

Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Specific locus test	Mouse	140 mg/kg	10 weeks	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)
Chemical Name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	DNA damage	Mouse	100 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

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat TD _{Lo}	0.05478 mg/kg	None reported	Effects on Embryo or Fetus Abortion Effects on Newborn Stillbirth	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
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Rat TD _{Lo}	41 mg/kg	None reported	Effects on Embryo or Fetus Fetal death Fetotoxicity (except death e.g. stunted fetus)	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

Chemical Name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Rabbit TC _{Lo}	.02 mg/L	7 hours	Specific Developmental Abnormalities Musculoskeletal system	HSDB (Hazardous Substances Data Bank)

Inhalation (Gas) Exposure Route No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

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

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Phosphoric acid, monosodium salt (10 - 20%) CAS#: 7558-80-7	96 hours	<i>Gambusia affinis</i>	LC ₅₀	186 mg/L	Vendor SDS
Chloroform (0.1 - 1%) CAS#: 67-66-3	96 hours	<i>Oncorhynchus mykiss</i>	LC ₅₀	18 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	96 hours	<i>Esox masquinongy</i>	LC ₅₀	0.55 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	> 16 mg/L	IUCLID (The International Uniform Chemical Information Database)
Chloroform (0.1 - 1%) CAS#: 67-66-3	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	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 (0.1 - 1%) CAS#: 67-66-3	48 Hours	<i>Daphnia magna</i>	EC ₅₀	29 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	48 Hours	None reported	EC ₅₀	1.27 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	48 hours	<i>Crangon crangon</i>	EC ₅₀	> 70 mg/L	IUCLID (The International Uniform Chemical Information Database)
Sodium arsenite (<0.1%) CAS#: 7784-46-5	48 hours	None reported	LC ₅₀	1.45 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)

Algae

Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sodium arsenite (<0.1%) CAS#: 7784-46-5	96 hours	None reported	EC ₅₀	0.07 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Chemical Name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Chloroform (0.1 - 1%) CAS#: 67-66-3	48 hours	<i>Desmodesmus subspicatus</i>	EC ₅₀	560 mg/L	IUCLID (The International Uniform Chemical Information Database)

Terrestrial toxicity

Soil

No data available

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Vertebrates No data available

Invertebrates No data available

Other Information

Canadian Environmental Protection Act (CEPA) - Domestic Substances List (DSL): Environmentally Hazardous Substances Categorizations				
Chemical Name	Category	Persistent	Bioaccumulation	Inherently Toxic to Aquatic Organisms
Chloroform (0.1 - 1%) CAS#: 67-66-3	Organics	Yes	No	Yes
Sodium arsenite (<0.1%) CAS#: 7784-46-5	Inorganics	Yes	No	Yes

Persistence and degradability

None known.

Product Biodegradability Data

If available, see ingredient data below.

Ingredient Biodegradability Data

Test data reported below

Bioaccumulation

If available, see ingredient data below.

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
Chloroform (0.1 - 1%) CAS#: 67-66-3	log K _{ow} = 1.97	No information available

Mobility

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

Product Information

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Ingredient Information

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Chemical Name	Soil Organic Carbon-Water Partition Coefficient	Method
Chloroform (0.1 - 1%) CAS#: 67-66-3	log K _{oc} = 1.71	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
Phosphoric acid, monosodium salt CAS#: 7558-80-7	Soluble	> 1000 mg/L	25 °C	77 °F
Sulfuric acid CAS#: 7664-93-9	Soluble	> 1000 mg/L	25 °C	77 °F
Chloroform CAS#: 67-66-3	Soluble	7450 mg/L	25 °C	77 °F
Sodium arsenite CAS#: 7784-46-5	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 Do not reuse container.

US EPA Waste Number D002, 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	Toxic waste waste number K021 Waste description: Aqueous spent antimony catalyst waste from fluoromethanes

			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.	production.
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Special instructions for disposal Dispose of material in an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT Not regulated
Emergency Response Guide Number 154

TDG Not regulated

IATA Not regulated
ERG Code 154

IMDG Not regulated

Note: No special precautions necessary.

Additional information

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

15. REGULATORY INFORMATION

National Inventories

TSCA Complies
DSL/NDSL Complies

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

International Inventories

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

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

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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 %
Sulfuric acid (CAS #: 7664-93-9)	1.0
Chloroform (CAS #: 67-66-3)	0.1
Sodium arsenite (CAS #: 7784-46-5)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
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)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sulfuric acid 7664-93-9	1000 lb	-	-	X
Chloroform 67-66-3	10 lb	X	X	X
Sodium arsenite 7784-46-5	1 lb	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)
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final 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
Sodium arsenite 7784-46-5	1 lb	1 lb	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 (0.1 - 1%) CAS#: 67-66-3	Release - Toxic

U.S. - DEA (Drug Enforcement Administration) List I & List II

Chemical Name	U.S. - DEA (Drug Enforcement)	U.S. - DEA (Drug Enforcement)
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	Administration) - List I or Precursor Chemicals	Administration) - List II or Essential Chemicals
Sulfuric acid (1 - 5%) CAS#: 7664-93-9	Not Listed	50 gallon Export Volume (exports, transshipments and international transactions to designated countries)

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
Sodium arsenite (CAS #: 7784-46-5)	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X
Chloroform 67-66-3	X	X	X
Sodium arsenite 7784-46-5	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

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical Name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Sodium arsenite 7784-46-5	Declarable Substance (FA)	0.05 % 0.01 %

Special Comments

None

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
 ACGIH
 NDF

Immediately Dangerous to Life or Health
 ACGIH (American Conference of Governmental Industrial Hygienists)
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 14-Dec-2016

Revision Date 14-Dec-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.

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End of Safety Data Sheet