



Be Right™

# SAFETY DATA SHEET

Issue Date 21-04-2016

Revision Date  
10-Aug-2021

Version 4.2

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## 1. IDENTIFICATION

### Product identifier

**Product Name** COD,TNT+,ULR(1.0-60 MG/L) PK/25

### Other means of identification

**Product Code(s)** TNT820

**Safety data sheet number** M02451

**UN/ID no** UN3316

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

**Recommended Use** Laboratory reagent. Determination of Chemical Oxygen Demand.

**Uses advised against** Consumer use.

**Restrictions on use** For Laboratory Use Only.

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

#### **Manufacturer Address**

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

#### **Emergency telephone number**

+1(303) 623-5716 - 24 Hour Service

## 2. HAZARDS IDENTIFICATION

### Classification

#### **Regulatory Status**

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

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 3
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (repeated exposure)	Category 2
Aquatic Acute Toxicity	Category 1
Chronic aquatic toxicity	Category 1

#### **Hazards not otherwise classified (HNOC)**

Data insufficient for GHS classification but significant enough for mention suggests:

CANCER HAZARD. STRONG INORGANIC ACID MISTS CONTAINING SULFURIC ACID CAN CAUSE CANCER.

Inhalation of low concentrations of sulfuric acid may result in airway irritation such as cough and shortness of breath; high concentrations may result in acute effects such as cough.

#### **Label elements**

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**Signal word**  
Danger



**Hazard statements**

- H290 - May be corrosive to metals
- H302 - Harmful if swallowed
- H311 - Toxic in contact with skin
- H314 - Causes severe skin burns and eye damage
- H332 - Harmful if inhaled
- H373 - May cause damage to organs through prolonged or repeated exposure
- H410 - Very toxic to aquatic life with long lasting effects

**Precautionary statements**

- P270 - Do not eat, drink or smoke when using this product
- P501 - Dispose of contents/ container to an approved waste disposal plant
- P405 - Store locked up
- P271 - Use only outdoors or in a well-ventilated area
- P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P280 - Wear protective gloves, protective clothing, eye protection, and face protection
- P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
- P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
- 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
- P363 - Wash contaminated clothing before reuse
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray
- P273 - Avoid release to the environment
- P391 - Collect spillage
- P234 - Keep only in original container
- P390 - Absorb spillage to prevent material damage

**Other Hazards Known**  
None

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

**Substance**  
Not applicable

**Mixture**

**Chemical Family** Mixture.  
**Chemical nature** Aqueous solution of inorganic acids and salts.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Sulfuric acid	7664-93-9	80 - 90%	-
Sulfuric acid, mercury(2+) salt (1:1)	7783-35-9	1 - 5%	-
Sulfuric acid, disilver(1+) salt	10294-26-5	<1%	-
Potassium dichromate	7778-50-9	<0.1%	-

#### 4. FIRST AID MEASURES

##### Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. 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. Delayed pulmonary edema may occur. Get immediate medical advice/attention.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get immediate medical advice/attention.
<b>Skin contact</b>	Get immediate medical advice/attention. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get immediate medical advice/attention.
<b>Self-protection of the first aider</b>	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. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapors or mists.

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

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

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

**Note to physicians** Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.

#### 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.

<b>Specific hazards arising from the chemical</b>	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
<b>Hazardous combustion products</b>	This material will not burn.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 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.

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Attention! Corrosive material. Keep people away from and upwind of spill/leak. Avoid breathing vapors or mists.

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

### Environmental precautions

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Should not be released into the environment. Do not allow to enter into soil/subsoil. Prevent product from entering drains.

### 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** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

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

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

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Avoid breathing vapors or mists.

### Conditions for safe storage, including any incompatibilities

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

**Flammability class** Not applicable

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

### Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Sulfuric acid CAS#: 7664-93-9	TWA: 0.2 mg/m <sup>3</sup> thoracic particulate matter	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> TWA: 1 mg/m <sup>3</sup>
Sulfuric acid, mercury(2+) salt (1:1) CAS#: 7783-35-9	TWA: 0.025 mg/m <sup>3</sup> Hg S*	(vacated) Ceiling: 0.1 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Hg Ceiling: 0.1 mg/m <sup>3</sup> Hg TWA: 0.05 mg/m <sup>3</sup> except Organo alkyls Hg vapor
Sulfuric acid, disilver(1+) salt CAS#: 10294-26-5	TWA: 0.01 mg/m <sup>3</sup> Ag	TWA: 0.01 mg/m <sup>3</sup> (vacated) TWA: 0.01 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ag TWA: 0.01 mg/m <sup>3</sup> Ag
Potassium dichromate CAS#: 7778-50-9	STEL: 0.0005 mg/m <sup>3</sup> Cr(VI) inhalable particulate matter TWA: 0.0002 mg/m <sup>3</sup> Cr(VI) inhalable particulate matter S*	TWA: 5 µg/m <sup>3</sup> (vacated) Ceiling: 0.1 mg/m <sup>3</sup> Ceiling: 0.1 mg/m <sup>3</sup>	IDLH: 15 mg/m <sup>3</sup> Cr(VI) TWA: 0.0002 mg/m <sup>3</sup> Cr

### 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. Wear breathing apparatus if exposed to vapors/dusts/aerosols.

#### Hand Protection

Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN 374-1:2016.

#### Eye/face protection

Face protection shield.

#### Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

#### General Hygiene Considerations

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

#### Environmental exposure controls

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

#### Thermal hazards

None under normal processing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

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Physical state Liquid  
 Appearance Turbid solution  
 Odor Acidic

Color light orange  
 Odor threshold No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	Not applicable	
pH	< 0.5	
Melting point/freezing point	~ No data available	
Boiling point / boiling range	~ 300 °C / 572 °F	
Evaporation rate	0.15 (water = 1)	
Vapor pressure	1.35 mm Hg / 0.18 kPa at 25 °C / 77 °F	
Relative vapor density	0.03	
Specific gravity (water = 1 / air = 1)	1.89	
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>
Completely soluble	> 10000 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>
None reported	No information available	No data available	No information available

**Other information**

**Metal Corrosivity**

Classified as corrosive to metal according to GHS criteria

**Steel Corrosion Rate**

> 6.25 mm/yr / > 0.25 in/yr

**Aluminum Corrosion Rate**

> 6.25 mm/yr / > 0.25 in/yr

**Volatile Organic Compounds (VOC) Content**

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
Sulfuric acid	7664-93-9	No data available	-
Sulfuric acid, mercury(2+) salt (1:1)	7783-35-9	Not applicable	-
Sulfuric acid, disilver(1+) salt	10294-26-5	No data available	-

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Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Potassium dichromate	7778-50-9	Not applicable	-

#### Explosive properties

Upper explosion limit Not applicable  
Lower explosion limit Not applicable

#### Flammable properties

Flash point No data available

#### Flammability Limit in Air

Upper flammability limit: No data available  
Lower flammability limit: No data available

#### Oxidizing properties

No data available.

#### Bulk density

Not applicable

## 10. STABILITY AND REACTIVITY

#### Reactivity

Not applicable. Corrosive to metal. Very reactive.

#### Chemical stability

Stable under normal conditions.

#### Explosion data

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

#### Possibility of hazardous reactions

None under normal processing.

#### Hazardous polymerization

Hazardous polymerization does not occur.

#### Conditions to avoid

Exposure to air or moisture over prolonged periods. Excessive heat.

#### Incompatible materials

Oxidizing agent. Acids. Bases.

#### Hazardous decomposition products

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

## 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure

#### Product Information

**Inhalation** Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with

tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. Harmful by inhalation.

**Eye contact** Causes burns. Corrosive to the eyes and may cause severe damage including blindness. Causes serious eye damage. May cause irreversible damage to eyes.

**Skin contact** Toxic in contact with skin. Corrosive. Causes severe burns. Avoid contact with skin and clothing.

**Ingestion** Causes burns. Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

**Symptoms** Redness. Burning. May cause blindness. Coughing and/ or wheezing.

**Acute toxicity**  
 Harmful if swallowed  
 Toxic in contact with skin  
 Harmful if inhaled

**Product Acute Toxicity Data**  
 No data available.

**Ingredient Acute Toxicity Data**  
 Test data reported below.

**Oral Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, mercury(2+) salt (1:1) (1 - 5%) CAS#: 7783-35-9	None reported	None reported	None reported	None reported	No information available
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Rat LD <sub>50</sub>	> 5000 mg/kg	None reported	None reported	Vendor SDS
Potassium dichromate (<0.1%) CAS#: 7778-50-9	Rat LD <sub>50</sub>	25 mg/kg	None reported	None reported	ERMA (New Zealands Environmental Risk Management Authority)

**Dermal Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, mercury(2+) salt (1:1) (1 - 5%) CAS#: 7783-35-9	None reported	None reported	None reported	None reported	No information available
Potassium dichromate (<0.1%) CAS#: 7778-50-9	Rat LD <sub>50</sub>	1170 mg/kg	None reported	None reported	ERMA (New Zealands Environmental Risk Management Authority)

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



Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, mercury(2+) salt (1:1) (1 - 5%) CAS#: 7783-35-9	None reported	None reported	None reported	None reported	No information available
Potassium dichromate (<0.1%) CAS#: 7778-50-9	Rat LC <sub>50</sub>	0.094 mg/L	4 hours	None reported	ERMA (New Zealand's Environmental Risk Management Authority)

#### Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, mercury(2+) salt (1:1) (1 - 5%) CAS#: 7783-35-9	None reported	None reported	None reported	None reported	No information available

#### Unknown Acute Toxicity

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

#### Acute Toxicity Estimations (ATE)

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

ATEmix (oral)	331.80 mg/kg
ATEmix (dermal)	331.10 mg/kg
ATEmix (inhalation-dust/mist)	3.32 mg/l
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

#### Skin corrosion/irritation

Causes severe burns.

#### Product Skin Corrosion/Irritation Data

No data available.

#### Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (80 - 90%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to skin	HSDB (Hazardous Substances Data Bank)
Sulfuric acid, mercury(2+) salt (1:1) (1 - 5%) CAS#: 7783-35-9	Existing human experience	Human	None reported	None reported	Skin irritant	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA (The European Chemicals Agency)

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### **Serious eye damage/irritation**

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

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

No data available.

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

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (80 - 90%) CAS#: 7664-93-9	Existing human experience	Human	None reported	None reported	Corrosive to eyes	HSDB (Hazardous Substances Data Bank)
Sulfuric acid, mercury(2+) salt (1:1) (1 - 5%) CAS#: 7783-35-9	Existing human experience	Human	None reported	None reported	Eye irritant	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Standard Draize Test	Rabbit	180 mg	None reported	Corrosive to eyes	ECHA (The European Chemicals Agency)

### **Respiratory or skin sensitization**

Based on available data, the classification criteria are not met.

### **Product Sensitization Data**

No data available.

### **Ingredient Sensitization Data**

Test data reported below.

### **Skin Sensitization Exposure Route**

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	<i>in vivo</i> Assay	Guinea pig	Not confirmed to be a skin sensitizer	ECHA (The European Chemicals Agency)

### **STOT - single exposure**

Based on available data, the classification criteria are not met.

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

No data available.

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

Test data reported below.

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

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (80 - 90%) CAS#: 7664-93-9	Human TD <sub>Lo</sub>	0.144 mg/L	5 minutes	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)

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**STOT - repeated exposure**

May cause damage to organs.

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

No data available.

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

Test data reported below.

**Oral Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Rat LD	> 2000 mg/kg	14 days	No toxicological effects observed	ECHA (The European Chemicals Agency)

**Inhalation (Vapor) Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfuric acid (80 - 90%) CAS#: 7664-93-9	Human TC <sub>Lo</sub>	0.003 mg/L	168 days	<b>Musculoskeletal</b> Changes in teeth and supporting structures	RTECS (Registry of Toxic Effects of Chemical Substances)

**Carcinogenicity**

Based on available data, the classification criteria are not met.

**Product Carcinogenicity Data**

No data available.

**Ingredient Carcinogenicity Data**

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Sulfuric acid	7664-93-9	A2	Group 1	Known	X
Sulfuric acid, mercury(2+) salt (1:1)	7783-35-9	-	Group 3	-	-
Sulfuric acid, disilver(1+) salt	10294-26-5	-	-	-	-
Potassium dichromate	7778-50-9	A1	Group 1	Known	X

**Legend**

<b>ACGIH (American Conference of Governmental Industrial Hygienists)</b>	A2 - Suspected Human Carcinogen
<b>IARC (International Agency for Research on Cancer)</b>	Group 1 - Carcinogenic to Humans Group 3 - Not classifiable as a human carcinogen
<b>NTP (National Toxicology Program)</b>	Known - Known Carcinogen
<b>OSHA (Occupational Safety and Health Administration of the US Department of Labor)</b>	X - Present

**Germ cell mutagenicity**

Based on available data, the classification criteria are not met.

**Product Germ Cell Mutagenicity invitro Data**

No data available.

**Ingredient Germ Cell Mutagenicity invitro Data**

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Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfuric acid (80 - 90%) CAS#: 7664-93-9	Cytogenetic analysis	Hamster ovary	4 mmol/L	None reported	Positive test result for mutagenicity	No information available
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	Mutation in mammalian somatic cells	Human lymphocyte	.08 mg/L	3 hours	Negative test result for mutagenicity	ECHA (The European Chemicals Agency)
Potassium dichromate (<0.1%) CAS#: 7778-50-9	Micronucleus test	Human lymphocyte	0.3 mg/L	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

**Product Germ Cell Mutagenicity** *in vivo* Data

No data available.

**Ingredient Germ Cell Mutagenicity** *in vivo* Data

No data available.

**Reproductive toxicity**

Based on available data, the classification criteria are not met.

**Product Reproductive Toxicity Data**

No data available.

**Ingredient Reproductive Toxicity Data**

Test data reported below.

**Oral Exposure Route**

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Potassium dichromate (<0.1%) CAS#: 7778-50-9	Mouse TD <sub>Lo</sub>	1710 mg/kg	19 days	<b>Effects on Embryo or Fetus</b> Fetotoxicity (except death e.g. stunted fetus) <b>Effects on Fertility</b> Post-implantation mortality (e.g. dead and/or resorbed implants per total number of implants) <b>Specific Developmental Abnormalities</b> Craniofacial (including nose and tongue)	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 (80 - 90%) CAS#: 7664-93-9	Rabbit TC <sub>Lo</sub>	0.02 mg/L	7 hours	<b>Specific Developmental Abnormalities</b> Musculoskeletal system	RTECS (Registry of Toxic Effects of Chemical Substances)

**Aspiration hazard**

Based on available data, the classification criteria are not met.

**12. ECOLOGICAL INFORMATION**

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This product contains a chemical which is listed as a severe marine pollutant according to DOT.

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

**Unknown aquatic toxicity** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

#### **Product Ecological Data**

**Aquatic Acute Toxicity**  
No data available.

**Aquatic Chronic Toxicity**  
No data available.

#### **Ingredient Ecological Data**

**Aquatic Acute Toxicity**  
Test data reported below.

#### **Fish**

<b>Chemical name</b>	<b>Exposure time</b>	<b>Species</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Key literature references and sources for data</b>
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	96 hours	<i>Pimephales promelas</i>	LC <sub>50</sub>	0.0012 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Potassium dichromate (<0.1%) CAS#: 7778-50-9	96 hours	<i>Oncorhynchus mykiss</i>	LC <sub>50</sub>	12.3 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)

#### **Crustacea**

<b>Chemical name</b>	<b>Exposure time</b>	<b>Species</b>	<b>Endpoint type</b>	<b>Reported dose</b>	<b>Key literature references and sources for data</b>
Sulfuric acid, disilver(1+) salt (<1%) CAS#: 10294-26-5	48 Hours	<i>Ceriodaphnia dubia</i>	LC <sub>50</sub>	0.0045 mg/L	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
Potassium dichromate (<0.1%) CAS#: 7778-50-9	48 Hours	<i>Daphnia magna</i>	EC <sub>50</sub>	0.035 mg/L	ERMA (New Zealand's Environmental Risk Management Authority)

**Aquatic Chronic Toxicity**  
No data available.

#### **Persistence and degradability**

**Product Biodegradability Data**  
No data available.

**Product Bioaccumulation Data**  
No data available.

**Partition Coefficient (n-octanol/water)** Not applicable

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### Mobility

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

**Other adverse effects**  
No information available

## 13. DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**US EPA Waste Number** D002, D009

**Special instructions for disposal** Dispose of all mercury contaminated material at an E.P.A. hazardous waste facility.  
Dispose of material in an E.P.A. approved hazardous waste facility.

## 14. TRANSPORT INFORMATION

### DOT

**UN/ID no** UN3316  
**Proper shipping name** Chemical kits  
**Transport hazard class(es)** 9  
**Reportable Quantity (RQ)** Mercuric sulphate: RQ kg= 300.66, Sulfuric acid: RQ kg= 504.89  
**Marine pollutant** This product contains a chemical which is listed as a severe marine pollutant according to DOT.  
**Emergency Response Guide Number** 171

### TDG

**UN/ID no** UN3316  
**Proper shipping name** Chemical kit  
**Transport hazard class(es)** 9  
**Marine pollutant** This product contains a chemical which is listed as a severe marine pollutant according to TDG.  
**Description** UN3316, Chemical kit, 9

### IATA

**UN number or ID number** UN3316  
**Proper shipping name** Chemical kit  
**Transport hazard class(es)** 9  
**ERG Code** 9L  
**Special precautions for user** A163, A44

### IMDG

**UN number or ID number** UN3316  
**Proper shipping name** Chemical kit  
**Transport hazard class(es)** 9  
**EmS-No** F-A, S-P  
**Special precautions for user** 251, 340  
**Marine pollutant** This material meets the definition of a marine pollutant

Additional information

**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 - Existing substances 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 %
Sulfuric acid (CAS #: 7664-93-9)	1.0
Sulfuric acid, mercury(2+) salt (1:1) (CAS #: 7783-35-9)	1.0
Sulfuric acid, disilver(1+) salt (CAS #: 10294-26-5)	1.0
Potassium dichromate (CAS #: 7778-50-9)	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
Sulfuric acid, mercury(2+) salt (1:1)	10 lb	X	-	X

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7783-35-9				
Sulfuric acid, disilver(1+) salt 10294-26-5	-	X	-	-
Potassium dichromate 7778-50-9	10 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
Sulfuric acid, mercury(2+) salt (1:1) 7783-35-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Potassium dichromate 7778-50-9	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ

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

Chemical name	U.S. - DEA (Drug Enforcement Administration) - List I or Precursor Chemicals	U.S. - DEA (Drug Enforcement Administration) - List II or Essential Chemicals
Sulfuric acid (80 - 90%) CAS#: 7664-93-9	Not Listed	50 gallon Export Volume (exports, transshipments and international transactions to designated countries given in 1310.08(b))

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Sulfuric acid (CAS #: 7664-93-9)	Carcinogen
Sulfuric acid, mercury(2+) salt (1:1) (CAS #: 7783-35-9)	Developmental
Potassium dichromate (CAS #: 7778-50-9)	Carcinogen Developmental Female Reproductive Male Reproductive



**WARNING:** This product can expose you to chemicals including Sulfuric acid, Potassium dichromate, Sulfuric acid, mercury(2+) salt (1:1), which are known to the State of California to cause cancer or birth defects or reproductive harm. For more information, go to <http://www.P65Warnings.ca.gov>

**IMERC:** Contains Mercury Dispose of in accordance with local, state and federal regulations or laws.

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

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfuric acid 7664-93-9	X	X	X
Sulfuric acid, mercury(2+) salt (1:1)	X	X	X



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7783-35-9			
Sulfuric acid, disilver(1+) salt 10294-26-5	X	-	X
Potassium dichromate 7778-50-9	X	X	X

**U.S. EPA Label Information**

Chemical name	FIFRA	FDA
Sulfuric acid	180.0910	21 CFR 184.1095

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

**Special Comments**

This product contains mercury and may be subject to reporting and recordkeeping requirements

**Additional information**

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

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Sulfuric acid, mercury(2+) salt (1:1) 7783-35-9	Declarable Substance (LR) Prohibited Substance (LR)	0 % 0.1 %
Potassium dichromate 7778-50-9	Declarable Substance (LR) Prohibited Substance (LR)	3 mg/kg 0 % 0.1 %

**NFPA and HMIS Classifications**

NFPA	Health hazards - 3	Flammability - 0	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - 3 - *	Flammability - 0	Physical hazards - 0	Personal protection - X - I

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

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

**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.

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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** 21-04-2016

**Revision Date** 10-Aug-2021

**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**