

The following list contains the Material Safety Data Sheets you requested. Please scroll down to view the requested MSDS(s).

<u>Product</u>	<u>MSDS</u>	<u>Distributor</u>	<u>Format</u>	<u>Language</u>	<u>Quantity</u>
1218629	N/A	Hach Company	ROWGHS	English	1

Total Enclosures: 1

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

MSDS No: M00587

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Chemical Oxygen Demand Standard Solution 300 mg/l COD

Catalog Number: 1218629

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

Emergency Telephone Numbers:
(Medical and Transportation)
(303) 623-5716 24 Hour Service
(515)232-2533 8am - 4pm CST

MSDS Number: M00587

Chemical Name: Not applicable

CAS Number: Not applicable

Additional CAS No. (for hydrated forms): Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Intended Use: Determination of Chemical Oxygen Demand

2. HAZARDS IDENTIFICATION

GHS Classification:

Hazard categories: Hazardous to the Aquatic Environment: Aquatic Chronic 3

GHS Label Elements:

Not applicable

Hazard statements: Harmful to aquatic life with long lasting effects.

Precautionary statements: Handle environmental release according to local, state, federal, provincial requirements.

Dispose of contents/container according to state, local, federal or national regulations.

HMIS:

Health: 0

Flammability: 0

Reactivity: 0

Protective Equipment: X - See protective equipment, Section 8.

NFPA:

Health: 0

Flammability: 0

Reactivity: 0

Symbol: Not applicable

WHMIS Hazard Classification: Not applicable

WHMIS Symbols: Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Potassium Acid Phthalate

CAS Number: 877-24-7

Chemical Formula: C₈H₅KO₄

GHS Classification: Acute Tox 5, H303; Acute Tox. Derm. 4, H312; Eye Irrit. 2A, H319

Percent Range: < 0.1

Percent Range Units: weight / weight

PEL: 15 mg/m³ as total dust; 5 mg/m³ as respirable dust
TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

WHMIS Symbols: Not applicable

Dipotassium Phthalate

CAS Number: 4409-98-7
Chemical Formula: C₈H₄K₂O₄
GHS Classification: Eye Irrit. 2A, H319
Percent Range: < 0.01
Percent Range Units: weight / weight
PEL: 15 mg/m³ as inhalable dust; 5 mg/m³ as respirable dust
TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

WHMIS Symbols: Not applicable

Copper Sulfate

CAS Number: 7758-98-7
Chemical Formula: CuSO₄ · 5H₂O
GHS Classification: Acute Tox. 3 -Orl, H301; Acute Tox. 4 -Derm, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Aquatic Acute 1, H400; Aquatic Chronic 1, H410
Percent Range: < 0.01
Percent Range Units: weight / weight
PEL: 1 mg/m³ as Cu; 0.1 mg/m³ as respirable Cu
TLV: 1 mg/m³ as Cu; 0.2 mg/m³ as respirable Cu

WHMIS Symbols: Acute Poison

Hazardous Components according to GHS: No

Demineralized Water

CAS Number: 7732-18-5
Chemical Formula: H₂O
GHS Classification: Not a dangerous substance according to GHS.
Percent Range: > 99.0
Percent Range Units: weight / weight
PEL: Not established
TLV: Not established

WHMIS Symbols: Not applicable

4. FIRST AID MEASURES

General Information: In the event of exposure, show this Material Safety Data Sheet and label (where possible) to a doctor.

Advice to doctor: Treat symptomatically.

Eye Contact: Flush eyes with water. Call physician if irritation develops.

Skin Contact (First Aid): Remove contaminated clothing. Wash skin with soap and plenty of water for 15 minutes. Call physician if irritation develops.

Inhalation: Remove to fresh air.

Ingestion (First Aid): Do not induce vomiting. Give large quantities of water. Call physician immediately. Never give anything by mouth to an unconscious person.

5. FIRE FIGHTING MEASURES

Flammable Properties: Material is not classified as flammable according to GHS criteria. Material will not burn.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

Extinguishing Media: Use media appropriate to surrounding fire conditions

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: This product will not burn or explode. May react violently with: strong acids strong bases strong oxidizers

Hazardous Combustion Products: This material will not burn.

6. ACCIDENTAL RELEASE MEASURES

Spill Response 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.

Containment Technique: Stop spilled material from being released to the environment. Absorb spilled liquid with non-reactive sorbent material. Releases of this material may contaminate the environment.

Clean-up Technique: Absorb spilled liquid with non-reactive sorbent material. Sweep up material. Place material in a plastic bag. Dispose of in accordance with local, state and federal regulations or laws.

Evacuation Procedure: Evacuate as needed to perform spill clean-up. If conditions warrant, increase the size of the evacuation.

DOT Emergency Response Guide Number: Not applicable

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

Storage: Keep this product in its original container when not in use. Keep container tightly closed when not in use. Store in a cool, dry, well-ventilated place. Protect from: heat bacterial contamination Keep away from: acids / acid fumes. bases oxidizers

Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin Protection: nitrile gloves In the EU, the selected gloves must satisfy the specifications of EU Directive 89/686/EEC and standard EN 374 derived from it.

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin Wash thoroughly after handling. Protect from: heat bacterial contamination Keep away from: acids/acid fumes bases oxidizers

TLV: Not established

PEL: Not established

For Occupational Exposure Limits (OEL) for ingredients, see section 3 - Composition/Information on Ingredients.:

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Clear, colorless liquid

Physical State: Liquid

Molecular Weight: Not applicable

Odor: Odorless

Odor Threshold: None

pH: 4.7

Metal Corrosivity:

Corrosivity Classification: Not classified as corrosive to metals according to GHS criteria.

Steel: Not determined

Aluminum: Not determined

Specific Gravity/ Relative Density (water = 1; air =1): 0.987

Viscosity: 1.0 mPa·s

Solubility:

Water: Miscible

Acid: Miscible

Other: Soluble in most polar solvents.

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

Coefficient of Water / Oil: Not applicable

Melting Point: 0 °C (32 °F)

Decomposition Temperature: Not applicable
Boiling Point: 100 °C (212 °F)
Vapor Pressure: 17.5 (2.3 kPa) mm Hg at 20 °C (68 °F)
Vapor Density (air = 1): 0.62
Evaporation Rate (water = 1): ~ 1
Volatile Organic Compounds Content: Not applicable
Flammable Properties: Material is not classified as flammable according to GHS criteria. Material will not burn.
Flash Point: Not applicable
Method: Not applicable
Flammability Limits:
Lower Explosion Limits: Not applicable
Upper Explosion Limits: Not applicable
Autoignition Temperature: Not applicable
Explosive Properties:
Not classified according to GHS criteria.
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.
Gas under Pressure:
Not classified according to GHS criteria.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Mechanical Impact: None reported
Static Discharge: None reported.
Reactivity / Incompatibility: May react violently in contact with: acids alkalis oxidizers
Hazardous Decomposition: No hazardous decomposition products known.
Conditions to Avoid: Evaporation Heat Bacterial contamination Contact with acid or acid fumes Contact with oxidizers

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No health effects are anticipated in normal use.
Toxicologically Synergistic Products: None reported
Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data Practically Non-toxic Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Single Exposure (STOT-SE): Based on classification principles, the classification criteria are not met.
Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.
Skin Corrosion/Irritation: Based on classification principles, the classification criteria are not met.
Eye Damage: Based on classification principles, the classification criteria are not met.
Sensitization: Based on classification principles, the classification criteria are not met.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Based on classification principles, the classification criteria are not met. Summary of findings reported in the literature follow.
Copper Sulfate: DNA Inhibition - Human Lymphocytes - 0.076 mmol/L. Potassium Acid Phthalate: Classified on the Danish Advisory List 2010 as mutagen and reproductive toxin.
No mammalian data found. A number of phthalates and their metabolites are suspected of having teratogenic and endocrine disrupting effects.
This product does NOT contain any IARC listed chemicals.
This product does NOT contain any NTP listed chemicals.
This product does NOT contain any OSHA listed carcinogens.
Symptoms/Effects:
Ingestion: Practically non-toxic Very large doses may cause: gastrointestinal tract irritation nausea vomiting
Inhalation: No effects anticipated
Skin Absorption: No effects anticipated
Chronic Effects: No effects anticipated
Medical Conditions Aggravated: Wilson's disease Pre-existing: Eye conditions

12. ECOLOGICAL INFORMATION

Product Ecological Information: Aquatic Toxicity Estimations: 96 hr Pimephales promelas LC50 = 69.09 mg/L; 48 hr Daphnia magna EC50 = 34.55 mg/L; 72 hr Thalassiosira pseudonana ErC50 = 123.38 mg/L

No ecological data available for this product. Do not place in landfill. Recycle appropriately. Do not release into the environment. No bioaccumulation potential. Mobility in soil: Highly mobile

Method Used for Estimation of Aquatic Toxicity of Mixture: Additivity Method (Acute Toxicity) and Summation Method M-factor (Multiplier) for highly toxic ingredients: 100

Ingredient Ecological Information: Copper Sulfate: Salmo gairdneri LC50 0.75 -0.84 mg/L; 96 hr Oncorhynchus mykiss LC50 = 0.1 mg/L; 96 hr Pimephales promelas LC50 = 0.0028 mg/L; 48 hr Daphnia magna EC50 = 0.0014 mg/L; 72 hr Thalassiosira pseudonana ErC50 = 0.005 mg/L

CEPA Categorization: Potassium Acid Phthalate: Not Persistent or Bioaccumulative. Not inherently toxic to aquatic organisms.

CEPA Categorization: Copper Sulfate: Persistent and inherently toxic to aquatic organisms (PiT).

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable

Special Instructions (Disposal): Check with local municipal and state authorities and waste contractors for pertinent local information regarding the proper disposal of chemicals.

Empty Containers: Working in a well-ventilated area. Rinse three times with an appropriate solvent. Collect rinsate and dispose of according to local, state or federal regulations. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Dispose of empty container as normal trash.

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

D.O.T.:

D.O.T. Proper Shipping Name: Not Currently Regulated

--

Hazard Class: NA

Subsidiary Risk: NA

ID Number: NA

Packing Group: NA

T.D.G.:

Proper Shipping Name: Not Currently Regulated

--

Hazard Class: NA

Subsidiary Risk: NA

UN Number/PIN: NA

Packing Group: NA

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Not Currently Regulated

--

Hazard Class: NA

Subsidiary Risk: NA

ID Number: NA

Packing Group: NA

I.M.O.:

Proper Shipping Name: Not Currently Regulated

--

Hazard Class: NA

Subsidiary Risk: NA

ID Number: NA

Packing Group: NA

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 set or kit, the classification given above applies. If the item IS

part of a set or kit, the classification would change to the following: UN3316 Chemical Kit, Class 9, PG II or III. If the item is not regulated, the Chemical Kit classification does not apply.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

O.S.H.A.: This product does not meet the criteria for a hazardous substance as defined in the Hazard Communication Standard. (29 CFR 1910.1200)

E.P.A.:

S.A.R.A. Title III Section 311/312 Categorization (40 CFR 370): This product is not hazardous under 29 CFR.1910.1200 and therefore is not covered by Title III under SARA.

S.A.R.A. Title III Section 313 (40 CFR 372): This product contains a chemical(s) subject to the reporting requirements of Section 313 of Title III of SARA.

Copper Sulfate

302 (EHS) TPQ (40 CFR 355): Not applicable

304 CERCLA RQ (40 CFR 302.4): Cupric sulfate 10 lbs.

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Cupric Sulfate - RQ 10 lbs.

RCRA: Contains no RCRA regulated substances.

State Regulations:

California Prop. 65: No Prop. 65 listed chemicals are present in this product.

Identification of Prop. 65 Ingredient(s): None

California Perchlorate Rule CCR Title 22 Chap 33: Not applicable

Trade Secret Registry: Not applicable

National Inventories:

U.S. Inventory Status: All ingredients in this product are listed on the TSCA 8(b) Inventory (40 CFR 710).

CAS Number: Not applicable

Canadian Inventory Status: All ingredients of this product are DSL Listed.

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

Australian Inventory (AICS) Status: All ingredients are listed.

New Zealand Inventory (NZIoC) Status: All components either listed or exempt.

Korean Inventory (KECI) Status: All components of this product are either listed, listed as the anhydrous compound or exempt.

Japan (ENCS) Inventory Status: All components either listed or exempt.

China (PRC) Inventory (MEP) Status: All components either listed or exempt.

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. In-house information. Technical Judgment.

Complete Text of H phrases referred to in Section 3: H301 Toxic if swallowed. . H312 Harmful in contact with skin. H315 Causes skin irritation. H319 Causes serious eye irritation. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

Revision Summary: . Substantial revision to comply with EU Reg 1272/2008, Reg 1907/2006 and UN GHS (ST/SG/AC.10/36/Add.3).

Date of MSDS Preparation:

Day: 15

Month: August

Year: 2014

MSDS Prepared: MSDS prepared by Product Compliance Department extension 3350

CCOHS Evaluation Note: It is offered under exemption from WHMIS labeling as specified in the Controlled Products Regulation (CPR) Section 17. It is offered under the interim policy that was established by Health Canada permitting use of GHS-formatted safety data sheets in Canada prior to revision of CPR to GHS. This product has been classified and labeled in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3). This SDS has been prepared in accordance with the requirements of GHS (ST/SG/AC.10/36/Add.3).

Legend:

NA - Not Applicable

w/w - weight/weight

ND - Not Determined
NV - Not Available

w/v - weight/volume
v/v - volume/volume

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.

HACH COMPANY ©2015