

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Buffer Powder Pillows Citrate Type for Heavy Metals
Catalog Number: 1420299

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: M00153
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: Laboratory Use

2. HAZARDS IDENTIFICATION

GHS Classification:

Hazard categories: . Acute Toxicity: Acute Tox. 4-Derm . Skin Corrosion/Irritation: Skin Irrit. 2 Respiratory or Skin Sensitization: Skin Sens.1 Serious Eye Damage/Eye Irritation: Eye Irrit. 2A Germ Cell Mutagenicity: Muta. 2 Carcinogenicity: Carc. 1B Reproductive Toxicity: Repr. 2 Specific Target Organ Toxicity - Single Exposure: STOT SE 1 Hazardous to the Aquatic Environment: Aquatic Chronic 2

GHS Label Elements:

DANGER



Hazard statements: . Harmful in contact with skin. . Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Suspected of causing genetic defects. May cause cancer. Suspected of damaging fertility. Suspected of damaging the unborn child. Causes damage to organs. Toxic to aquatic life with long lasting effects.

Precautionary statements: Do not breathe dust/fume/gas/mist/vapours/spray. Contaminated work clothing should not be allowed out of the workplace. Handle environmental release according to local, state, federal, provincial requirements. Wear protective gloves / protective clothing / eye protection / face protection. IF ON SKIN: Wash with plenty of soap and water. . IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Dispose of contents/container according to state, local, federal or national regulations.

HMIS:

Health: 3*

Flammability: 1

Reactivity: 1

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

NFPA:

Health: 3

Flammability: 1

Reactivity: 1

Symbol: Not applicable

WHMIS Hazard Classification: Class D, Division 1, Subdivision B - Toxic material (immediate effects) Class D, Division 2, Subdivision A - Very toxic materials (other toxic effects) Class D, Division 2, Subdivision B - Toxic material (other toxic effects)

WHMIS Symbols: Acute Poison Other Toxic Effects

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Citric Acid

CAS Number: 77-92-9

Chemical Formula: $C_6H_8O_7$

GHS Classification: AcuteTox5-Orl, H303; AcuteTox5-Derm, H313; SkinIrrit2, H315; EyeIrrit2A, H319

Percent Range (Trade Secret): 65.0 - 75.0

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: Other Toxic Effects

Hydrazine Sulfate

CAS Number: 10034-93-2

Chemical Formula: $N_2H_4 \cdot H_2O_4S$

GHS Classification: Met. Corr. 1, H290; Acute Tox. 3-Orl, H301; Acute Tox. 3-Derm, H311; Acute Tox. 3-Inh, H331; Eye Irrit. 2B, H320; Carc. 1B, H350; Muta. 2, H341; Repr. 2, H361; STOT Single 1, H370; Skin Sens. 1, H317; Aquatic Chronic 1, H410

Percent Range (Trade Secret): 10.0 - 20.0

Percent Range Units: weight / weight

PEL: 0.1 ppm as N_2H_4

TLV: 0.1 ppm as N_2H_4

WHMIS Symbols: Acute Poison

Hazardous Components according to GHS: No

Sodium Citrate

CAS Number: 68-04-2

Chemical Formula: $C_6H_5O_7Na_3 \cdot 2H_2O$

GHS Classification: Not applicable

Percent Range (Trade Secret): 10.0 - 20.0

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

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: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

Ingestion (First Aid): Induce vomiting using syrup of ipecac or by sticking finger down throat. Never give anything by mouth to an unconscious person. Call physician immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors. Can burn in fire, releasing toxic vapors.

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear. Evacuate area and fight fire from a safe distance.

Extinguishing Media: Carbon dioxide Dry chemical. Water.

Extinguishing Media NOT To Be Used: Not applicable

Fire / Explosion Hazards: Contact with metal nitrates may cause explosion.

Hazardous Combustion Products: Toxic fumes of: nitrogen oxides. carbon monoxide, carbon dioxide. sulfur oxides. ammonia

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. Cover spilled liquid with sand or other inert material.

Clean-up Technique: If permitted by regulation, Scoop up spilled material into a large beaker and dissolve with water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Flush reacted material to the drain with a large excess of water. Decontaminate the area of the spill with a soap solution. Otherwise, Pick up spill for disposal and place in a closed container. Dispose of in accordance with local, state and federal regulations or laws.

Evacuation Procedure: Evacuate local area (15 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. 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. Do not breathe dust. Wash thoroughly after handling. Maintain general industrial hygiene practices when using this product.

Storage: Keep container tightly closed when not in use.

Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Maintain adequate ventilation to keep exposure levels below the published exposure limits for chemicals in this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin Protection: disposable latex gloves lab coat

Inhalation Protection: adequate ventilation

Precautionary Measures:

TLV: 10 mg/m³ as inhalable dust; 3 mg/m³ as respirable dust

PEL: 15 mg/m³ as total dust; 5 mg/m³ as respirable dust

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White powder or White crystals

Physical State: Solid

Molecular Weight:

Odor: None

Odor Threshold: None

pH: 1% solution = 2.4

Metal Corrosivity:

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

Steel: 0.23 in/yr

Aluminum: 0.005 in/yr

Specific Gravity/ Relative Density (water = 1; air =1): 1.74

Viscosity: Not applicable

Solubility:

Water: Not determined

Acid: Not determined

Other: Not determined

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

Coefficient of Water / Oil: Not applicable

Melting Point: Not determined

Decomposition Temperature: Not determined

Boiling Point: Not applicable

Vapor Pressure: Not determined

Vapor Density (air = 1): Not determined

Evaporation Rate (water = 1): Not determined

Volatile Organic Compounds Content: Not applicable

Flammable Properties: Can burn in fire, releasing toxic vapors.

Flash Point: Not applicable

Method: Not applicable

Flammability Limits:

Lower Explosion Limits: Not determined

Upper Explosion Limits: Not determined

Autoignition Temperature: Not determined

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 explode in contact with: metal nitrates

Hazardous Decomposition: None reported

Conditions to Avoid: Excess moisture

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available for mixture.

Toxicologically Synergistic Products: None reported

Acute Toxicity: Acute Toxicity Estimate (ATE) - Calculated from Ingredient Toxicity Data

ATE Oral LD50 = 2134 mg/kg

ATE Dermal LD50 = 538 mg/kg

ATE Inhalation (powder/dust) LD50 = 6 mg/l

Specific Target Organ Toxicity - Single Exposure (STOT-SE): Target Organs Kidneys Liver Central nervous system
Respiratory Tract

Specific Target Organ Toxicity - Repeat Exposure (STOT-RE): Based on classification principles, the classification criteria are not met.

Skin Corrosion/Irritation: Irritating to skin.

Eye Damage: Irritating to eyes.

Sensitization: Skin Sensitizer

CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): Contains Listed Carcinogen Data supporting mutagenicity was found. Reproductive toxicity has been reported.

Hydrazine Sulfate

Symptoms/Effects:

Ingestion: Harmful May cause: gastrointestinal disturbances central nervous system effects

Inhalation: Harmful May cause: respiratory tract irritation central nervous system effects

Skin Absorption: Harmful if absorbed through the skin

Chronic Effects:

Medical Conditions Aggravated:

12. ECOLOGICAL INFORMATION

Product Ecological Information: None reported

Ingredient Ecological Information: Hydrazine Sulfate: Hydrazine (N₂H₄): 96 hr Poecilia reticulata (guppy) LC₅₀ = 0.28 mg/L; 48 hr Daphnia pulex (Water flea) = 0.16 mg/L

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable

Special Instructions (Disposal): Work in an approved fume hood. Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. Open cold water tap completely, slowly pour the material to the drain. Allow cold water to run for 5 minutes to completely flush the system.

Empty Containers: Rinse three times with an appropriate solvent. 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.

14. TRANSPORT INFORMATION

D.O.T.:

D.O.T. Proper Shipping Name: Environmentally hazardous substances, solid, n.o.s.
(Hydrazine sulfate)

Hazard Class: 9

Subsidiary Risk: NA

ID Number: UN3077

Packing Group: III

T.D.G.:

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s.
(Hydrazine sulfate)

Hazard Class: 9

Subsidiary Risk: NA

UN Number/PIN: 3077

Packing Group: III

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Environmentally Hazardous Substance, Solid, nos
(Hydrazine sulfate)

Hazard Class: 9

Subsidiary Risk:

ID Number: UN3077

Packing Group: III

I.M.O.:

Proper Shipping Name: Environmentally Hazardous Substance, Solid, nos
(Hydrazine sulfate)

Hazard Class: 9

Subsidiary Risk:

ID Number: UN3077

Packing Group: III

Additional Information: There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is NOT in a 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. ALSO NOTE: If the National Competent Authority declares this product an environmental hazard by Special Provision 909 (IMDG) and Special Provision A97 (IATA) the classification may be UN3077 or UN3082.

15. REGULATORY INFORMATION

U.S. Federal Regulations:

O.S.H.A.: This product meets 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): Immediate (Acute) Health Hazard Delayed (Chronic) Health Hazard

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.

Hydrazine Sulfate

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

304 CERCLA RQ (40 CFR 302.4): Not applicable

304 EHS RQ (40 CFR 355): Not applicable

Clean Water Act (40 CFR 116.4): Not applicable

RCRA: Contains no RCRA regulated substances.

State Regulations:

California Prop. 65: WARNING - This product contains a chemical known to the State of California to cause cancer.

Identification of Prop. 65 Ingredient(s): Hydrazine Sulfate

California Perchlorate Rule CCR Title 22 Chap 33: Not applicable

Trade Secret Registry:

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:

EEC Inventory Status:

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:

Complete Text of H phrases referred to in Section 3: H301 Toxic if swallowed. H311 Toxic in contact with skin. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H331 Toxic if inhaled. H350 May cause cancer. 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: 31

Month: October

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	w/v - weight/volume
NV - Not Available	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.

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