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

MSDS No: M00120

SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: HexaVer™ Chelant
Catalog Number: 24399

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: M00120
Chemical Name: Glycine, N,N'-1,2-cyclohexanediylbis(N-(carboxymethyl))-, Disodium Salt
CAS Number: 5786-78-7
Additional CAS No. (for hydrated forms): -
Hydrate: 57137-35-6
Chemical Formula: $C_{14}H_{20}N_2O_8Na_2 \cdot x\ H_2O$
Chemical Family: Salts of Organic Acids
Intended Use: Laboratory Reagent

2. HAZARDS IDENTIFICATION

Not applicable
GHS Classification:
Hazard categories: Serious Eye Damage/Eye Irritation: Eye Irrit. 2A
GHS Label Elements:
WARNING

Hazard statements: Causes serious eye irritation.
Precautionary statements: Wear protective gloves / protective clothing / eye protection / face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
HMIS:
Health: 1
Flammability: 1
Reactivity: 0
Protective Equipment: X - See protective equipment, Section 8.
NFPA:
Health: 1
Flammability: 1
Reactivity: 0
Symbol: Not applicable
WHMIS Hazard Classification: Not applicable
WHMIS Symbols: Not applicable

3. COMPOSITION / INFORMATION ON INGREDIENTS

Hazardous Components according to GHS:

Cyclohexanediaminetetraacetic Acid, Disodium Salt

CAS Number: 5786-78-7
Chemical Formula: $C_{14}H_{20}N_2O_8Na_2 \cdot x\ H_2O$
GHS Classification: Eye Irrit. 2A, H319
Percent Range (Trade Secret): 100.0
Percent Range Units: weight / weight
PEL: 15 mg/m^3 as inhalable dust; 5 mg/m^3 as respirable dust
TLV: 10 mg/m^3 as inhalable dust; 3 mg/m^3 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 soap and plenty of water for 15 minutes. Call physician if irritation develops.
Inhalation: Remove to fresh air.
Ingestion (First Aid): Give large quantities of water. Call physician immediately.

5. FIRE FIGHTING MEASURES

Flammable Properties: Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria.
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: None reported
Hazardous Combustion Products: Toxic fumes of: carbon monoxide, carbon dioxide. nitrogen oxides. sodium monoxide

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. Releases of this material may contaminate the environment.
Clean-up Technique: 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. Decontaminate the area of the spill with a soap solution. If permitted by regulation, Flush reacted material to the drain with a large excess of water. Otherwise, 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. Use with adequate ventilation. Do not breathe dust. Maintain general industrial hygiene practices when using this product.
Storage: Store in a cool, dry, well-ventilated place. Protect from: heat moisture
Flammability Class: Not applicable

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Have an eyewash station nearby. A system of local and/or general exhaust is recommended to keep exposures as low as possible Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields Suitable facilities (eyewash station or bottle) for flushing of the eyes

Skin Protection: nitrile gloves

Inhalation Protection: adequate ventilation

Precautionary Measures: Avoid contact with: eyes skin Wash thoroughly after handling. Use with adequate ventilation. Do not breathe: dust Protect from: heat moisture

TLV: 10 mg/m^3 as inhalable dust; 3 mg/m^3 as respirable dust

PEL: 15 mg/m^3 as inhalable dust; 5 mg/m^3 as respirable dust

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White crystals

Physical State: Solid

Molecular Weight: 441.23 g/mol

Odor: Odorless

Odor Threshold: Not applicable

pH: 5% solution = 4.6

Metal Corrosivity:

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

Steel: Not applicable

Aluminum: Not applicable

Specific Gravity/ Relative Density (water = 1; air =1): 1.59

Viscosity: Not applicable

Solubility:

Water: Soluble

Acid: Soluble

Other: Not determined

Partition Coefficient (n-octanol / water): KOWWIN Estimation: log K_{ow} = -10

Coefficient of Water / Oil: Not determined

Melting Point: > 400° C (> 752° F)

Decomposition Temperature: Not applicable

Boiling Point: Not applicable

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not applicable

Flammable Properties: Can burn in fire, releasing toxic vapors. Material is not classified as flammable according to GHS criteria.

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 classifed 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.

Not applicable

10. STABILITY AND REACTIVITY

Chemical Stability: Stable when stored under proper conditions.
Mechanical Impact: None reported
Static Discharge: None reported.
Reactivity / Incompatibility: None reported
Hazardous Decomposition: Heating to decomposition releases: carbon dioxide carbon monoxide nitrogen oxides
Conditions to Avoid: Extreme temperatures Excess moisture

11. TOXICOLOGICAL INFORMATION

Toxicokinetics, Metabolism and Distribution: No information available
Toxicologically Synergistic Products: None reported
Acute Toxicity: No Acute Toxicity Data Found Quantitative structure-activity relationship (QSAR) Estimation Estimation of Toxicity Hazard (Chronic Oral Route) Cramer Classification - Class 3 NOEL (mg/kg bw/day): 0.15; human exposure threshold (mg/person/day): 0.09 Cramer Classification exposure threshold assumes 60 kg body weight (Adapted from Munro et al. 1996. Food Chem. Toxicol. 34: 829) Toxtree (Ideaconsult, Ltd)
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: Irritating to eyes.
Based on EDTA.
Sensitization: Based on classification principles, the classification criteria are not met.
CMR Effects/Properties (carcinogenic, mutagenic or toxic to reproduction): No germ cell mutagenicity, carcinogenicity or reproductive toxicity data found. Based on classification principles, the classification criteria are not met.
NTP Listed: No
O.S.H.A. Listed: No
Symptoms/Effects:
Ingestion: None reported
Inhalation: No data reported.
Skin Absorption: None Reported
Chronic Effects: None reported
Medical Conditions Aggravated: None reported

12. ECOLOGICAL INFORMATION

Product Ecological Information: ECOSARS Estimation: 96 hr Fish LC50 = 35600 mg/L; 48 hr Daphnid LC50 = 26162 mg/L; 96 hr Green Algae EC50 = 56103 mg/L
No ecological data available for this product. Ecological structure-activity relationship (SAR) Estimation (ECOSAR U.S. EPA 2009) SAR Class Aliphatic Amines Based on classification principles, not classified as hazardous to the environment. No bioaccumulation potential Mobility in soil: Moderate to Low
CEPA Categorization: Not Persistent or Bioaccumulative. Not inherently toxic to aquatic organisms.
BIOWIN Estimation: Not Readily Biodegradable; KOWWIN Estimation: log K_{ow} = -10; KOCWIN Estimation: log K_{oc} = 3.54
Ingredient Ecological Information: --
Not applicable

13. DISPOSAL CONSIDERATIONS

EPA Waste ID Number: Not applicable
Special Instructions (Disposal): 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. If permitted by regulation, Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Otherwise, 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. In the US, rinsate from empty containers is classified as hazardous waste and should be disposed of at an E.P. A. approved facility. Rinsate from empty containers may contain sufficient product to require disposal as hazardous waste. 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
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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
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Hazard Class: NA
Subsidiary Risk: NA
ID Number: NA
Packing Group: NA

I.M.O.:
Proper Shipping Name: Not Currently Regulated
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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 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
S.A.R.A. Title III Section 313 (40 CFR 372): This product does NOT contain any chemical subject to the reporting requirements of Section 313 of Title III of SARA.
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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: No Prop. 65 listed chemicals are present in this product.
Identification of Prop. 65 Ingredient(s): Not applicable
California Perchlorate Rule CCR Title 22 Chap 33: Not applicable
Trade Secret Registry: Not applicable

National Inventories:
U.S. Inventory Status: TSCA Listed: Yes
CAS Number: 5786-78-7

Canadian Inventory Status: DSL Listed: Yes
EEC Inventory Status: EINECS Listed: Yes
Australian Inventory (AICS) Status: Not Listed
New Zealand Inventory (NZIoC) Status: Listed
Korean Inventory (KECI) Status: Not listed - exempt. Quantity < 100 kg per annum.
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: TLV's Threshold Limit Values and Biological Exposure Indices for 1992-1993. American Conference of Governmental Industrial Hygienists, 1992. In-house information. Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332-2983.
Complete Text of H phrases referred to in Section 3: H319 Causes serious eye irritation.
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: 01
Month: December
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.

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.