

The following sections of the Safety Data Sheet contain important information. ENCEE Chemical Sales encourages and expects you to read and understand the entire safety data sheet and follow precautions identified unless your use would necessitate other appropriate methods or actions.

***** **Section 1 – Company Identification** *****

Product Name: SGH50

Synonyms: Cee*Quest SGH50

Producer: ENCEE Chemical Sales, 1120 D-Street, Bridgeton, NC 28519

Contact Information: ENCEE Chemical Sales (252) 633 5868

CHEMTREC 24 Hour Emergency Telephone – (800) 424 - 9300)

Safety Data Sheet Number: 2015-SGH50-001

Initial Issue Date: May 29, 2015

Revision Date: May 9, 2024

Product Use: Aqueous chelating agent solution for industrial and agricultural uses.

Product Use Restrictions: To be used by trained professionals.

Revision History: This SDS replaces all previous MSDS's for the SGH50 product. This SDS has been revised to comply with HCS 2102 in the US and includes the UN GHS classifications (Rev 4). September 2020 revision. Revision date change, footer correction, no other substantive changes. May 9, 2024, revision. Correction of TSCA inventory statements, correction of percentages, correction of typographical errors detected in product number page 10.

***** Section 2 – Hazards Identification *****

2.1 EMERGENCY OVERVIEW

Product is a dark brown liquid with sweet odor. Product may be harmful if swallowed and causes eye irritation.

2.1.1 OSHA Regulatory Status: This material is a hazardous chemical according to US CFR 1910.1200.

2.1.2 Classification of product:**Classification System**

US HCS 2012
Eye Irritant: Category 2B

UN GHS Rev 4
Acute oral toxicity: Category 5
Eye Irritant: Category 2B

2.2 Label Elements:

2.2.1 Signal Word: Warning

2.2.2 Pictograms: None

2.2.3 Hazard Statements

Causes eye irritation
May be harmful if swallowed

2.2.4 Precautionary Statements**Prevention**

Do not handle until all safety precautions have been read and understood
Wear protective gloves and protective eye wear,
Do not get in eyes or on skin
Wash thoroughly after handling
Do not breathe mists or sprays
Use in well-ventilated area
Do not eat, drink or smoke when using this product

Response

If swallowed: immediately call Poison Control Center or doctor
If swallowed do not induce vomiting
If in eyes rinse cautiously with water, remove contact lenses if easy to do, continue rinsing, seek medical attention
If eye irritation develops get medical attention
If on skin wash thoroughly with water to remove
If skin irritation occurs with a rash occurs seek medical attention
If inhaled as a spray or mist seek medical attention immediately
If inhaled remove person to fresh air and keep comfortable for breathing
Take off all contaminated clothing and wash before reuse

Disposal

Dispose of containers in accordance with local, state (provincial), federal regulations

Storage

Keep container tightly closed
Store above 20 °F and below 100 °F

2.3 Hazards not otherwise classified

May emit toxic vapors when exposed to concentrated acids or concentrated bases.

2.4 Symptoms of Exposure

- Tearing, burning sensation in eyes, redness in eyes
- Nausea, diarrhea, vomiting if ingested
- Possible redness and blistering on skin if not removed

******* Section 3 - Ingredients *******

Ingredients Used to Formulate			Classification*	
Name	CAS Number	% by Weight	US HCS 2012	UN GHS Rev 4
Sodium glucoheptonate* (exact percentage being withheld as confidential business information)	13007-85-7	25 - 53	Not classified	Acute Oral Toxicity: Category 5
Water	7732-18-5	47 - 75	Not classified	Not classified
Impurities which contribute to classification				
Ammonia (aqueous)	1336-21-6	<0.05%	Eye Irritation: Category 2B	Eye Irritation: Category 2B

NOTES:

* - alternate names G-glycero-D-gulo-heptonic acid sodium salt, D-glycero-D-ido-heptonic acid sodium salt

******* Section 4 – First Aid Measures *********4.1 Skin and Eyes**

4.1.1 Eye Contact: Immediately flush with water for 30 minutes to ensure removal while occasionally lifting upper and lower eyelids to aid removal of material from the eye. Remove contact lenses if easy to do after 5 minutes and continue flushing eyes with water. Seek medical attention if eye irritation develops or persists.

4.1.2 Skin Contact: Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Dispose of clothing items and shoes which cannot be decontaminated. Seek medical attention if rash develops.

4.1.3 1 Ingestion: Get medical attention at once. Contact a Poison Control Center and medical personnel immediately. If person attempts to vomit keep head lower than hips to reduce possibility aspiration of material into the lungs. Do not induce vomiting unless directed. Do not give any fluids unless directed by medical personnel. Never attempt to give anything to an unconscious person. If the person is unconscious turn persons head to side.

4.1.4 2 Inhalation: Remove person from area where mist or spray containing product vapors or aerosols exists if it is safe to do so. Seek medical attention. Provide artificial respiration or breathing support if needed and keep victim warm and at rest.

4.2 Notes to physician:

Provide supportive care and monitor for development of symptoms.

4.3 Symptoms of exposure:

- Tearing, burning sensation in eyes, redness in eyes
- Nausea, diarrhea, vomiting if ingested
- Possible redness and blistering on skin

***** **Section 5 – Fire Fighting Measures** *****

5.1 General Information: The product is not flammable or combustible unless dried.

5.2 Flammability: No (aqueous mixture)

5.3 Auto Ignition Temperature: Not known

5.4 Flash Point of Product Mixture: Not Applicable for aqueous mixture

5.5 Flammable Limits: Unknown

5.6 Explosion Limits for Product Mixture: Unknown

5.7 Products of Combustion: Oxides of carbon, and nitrogen, aldehydes or other toxic fumes

5.8 Fire Hazards in Presence of Various Substances: This product will react with some metals (sodium, potassium, magnesium, calcium, aluminum and zinc) to generate explosive hydrogen gas. Strong oxidizing agents (dichromates, permanganates, nitrates, peroxides- see section 10) could release large amount of heat when mixed with product.

5.9 Fire Fighting Media and Instructions: Use water spray, dry chemical, carbon dioxide or chemical foam. Solid streams of water or high volume water jet may spread fire.

***** **Section 6 – Incidental Release Measures** *****

6.1 General Information: Use proper personal protection (see section 8). Isolate area and keep unnecessary and unprotected personnel from entering area. Ventilate area and remove sources of ignition.

6.2 Small Spills: Contain and recover as much material as possible. Mop up or absorb with a dry inert material and dispose of in accordance with local and regional requirement.

6.3 Large Spills: Stop leak if no risk exists. Dam or dike the area to prevent entry into sewers or storm drains. Recover as much material as possible into plastic or steel drums or other approved waste containers. Do not use incompatible metals (see section 7). Area may be rinsed with water to clean surfaces.

6.4 Special Notes on Incidental Release Measures: The materials in this product are highly water soluble and recovery after spillage into surface waters is not likely to be effective. The product components are anticipated to biodegrade over time.

***** Section 7 – Handling and Storage *****

7.1 General Information: Use proper personal protective equipment (see section 8). Keep away from children.

7.2 Product Compatibility with Water: Product is completely soluble in water.

7.3 Product Storage Materials: Use plastics such as polyethylene, polypropylene, Teflon or other chemically inert plastics. Use nonreactive metals such as stainless steel (316).

7.4 Incompatible Storage Materials: Galvanized metals, zinc, aluminum and any other metals that react with water, acids or bases to generate hydrogen gas.

7.5 Storage: Keep containers closed and store where product will not freeze (above 0 °C or 32 °F).

7.7 Precautions for Process Transfer Lines: Ensure that all process transfer lines are made of appropriate materials (see above) and have appropriate block valves to prevent spills and leakage and to ensure that repairs can be made without product spillage.

7.8 Other Notes on Handling and Storage:

Do not ingest.

Keep product away from children.

Do not mix with animal feeds.

Do not tank mix with incompatible materials.

Keep away from incompatible materials (see section 10)

Do not mix with strong alkalis (sodium hydroxide, potassium hydroxide, etc.)

Do not mix with strong acids (hydrochloric, sulfuric, etc)

Do not store in aluminum containers.

***** Section 8 – Exposure Controls *****

8.1 Exposure Limits

Exposure limits for sodium glucoheptonate have not been found. Exposure Limit for ammonia (impurity <1%) 8hr TWA = 17 mg/m³ (25 ppm); 15 min STEL = 24 mg/m³ (35 ppm)

8.2 Decontamination equipment: Eye wash and safety shower

8.3 Personnel Protective Equipment:

8.3.1 Eyes: Minimum safety glasses with side shields. If aerosols of liquid or splashing hazards exist then indirect vented goggles (or goggles underneath face shield) should be used. Face shields should be used over primary eye protection.

8.3.2 Skin: Appropriate clothing and gloves should be worn if handling the product. Chemical resistant clothing may be needed if product is being sprayed under high pressure. Hands should be protected by chemical resistant gloves. Do not use latex gloves.

8.3.3 Inhalation: Under normal conditions of use a respirator should not be required. In environments where aerosols exist a respirator may be needed. Use an approved properly fitted fume respirator including powered or unpowered fume respirators. Use an approved properly fitted self-contained breathing apparatus with full face plate operated in pressure demand mode (positive-pressure mode) in combination with a separate escape supply if a condition dangerous to life or health exists. Use of any respirator requires proper training and certification.

8.4 Engineering Controls: Provide protection against spillage and aerosol formation. Provide a system of local/and or general exhaust.

***** Physical and Chemical Properties *****

Appearance: dark brown liquid

Odor: sweet odor of caramel

Odor Threshold: Unknown

Taste: unknown

Molecular Weight: Not Applicable for mixture

pH: 8.0 - 10.5

Boiling Point: 100 °C (212 °F)

Freezing Point: below -10 °C (15 F°)

Critical Temperature: not Available

Solubility: Mixes with water in all proportions.

Specific Gravity: 1.267 – 1.280 (10.55 lb/gal – 10.65 lb/gal)

Typical Density = 10.60 lb/gal at 22 C (72 F)

Viscosity:

Temperature C (F)	Viscosity (cps)
0 (32)	155
12 (54)	80
24 (75)	44
40 (104)	21

Vapor Pressure: unknown

Vapor Density (air = 1): unknown

Volatility: not available

Odor Threshold: not Available

Flash Point: not applicable for aqueous mixture

Lower Explosion Limits: not applicable

Upper Explosion not applicable

***** Section 10 – Stability and Reactivity *****

10.1 General Information: Product is stable under normal conditions of temperature and pressure.

10.2 Conditions to Avoid: Excessive heat (above 100 C).

10.3 Incompatibilities: Oxidizing agents such as dichromate's (chromates), permanganates, nitric acid, perchloric acid and hydrogen peroxide. The product will react with metals that ordinarily react with water, acids or bases to form hydrogen gas. Examples include sodium, potassium, calcium, magnesium, zinc, aluminum (finely divided), and iron (finely divided). Avoid contact with hypochlorite solutions (sodium hypochlorite, bleach or calcium hypochlorite).

10.4 Metals Corroded by Product: Aluminum, zinc, galvanized metals, and copper.

10.5 Thermal Decomposition Products: Oxides of carbon, nitrogen, aldehydes or other potentially toxic carbon nitrogen containing compounds.

10.6 Hazardous Decomposition Products: Ammonia, carbon monoxide, aldehydes, or other potentially toxic carbon nitrogen containing compounds.

10.7 Hazardous Polymerization: Will not occur.

10.8 Hazardous Reaction Products: Product may emit toxic gases when mixed with strong alkalis or with strong acids.

***** Section 11 – Toxicological Information *****

11.1 Routes of Entry: Eyes, Skin, Ingestion; Inhalation if aerosols are being generated in a process operation.

11.1.1 Symptoms of exposure

- Tearing, burning sensation in eyes, redness in eyes
- Nausea, diarrhea, vomiting if ingested
- Possible redness and blistering on skin
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11.1.2 General Notes on Toxicology Information

Much of the available data has been collected by ECHA (European Chemicals Agency). The information found indicates the compound sodium glucoheptonate has very low toxicity. One read across QSAR (Quantitative Structure Activity Relationship) was identified using sodium gluconate as the read across reference compound.

The classification has been based upon a read across from sodium gluconate for all aspects of classification except eye irritation.

11.2 Acute toxicity Estimates and Classification:

Only value found indicates that toxicity exceeds 2000 mg/kg as an active ingredient of sodium glucoheptonate. (UN GHS category 5). The material does not meet classification criteria under US HCS 02012.

Hazard Statements: May be harmful if swallowed Signal Word: None Pictogram: None

11.3 Skin Irritation Classification: The material does not meet classification criteria under US HCS 02012 – read across from sodium gluconate.

11.4 Eye Irritation/Damage Classification: The primary component sodium glucoheptonate does not meet classification criteria under US HCS 02012 – read across from sodium gluconate.

The product contains an impurity of aqueous ammonia which is known to be an eye irritant at high concentrations. The impurity is typically present at a concentration of less than 1% which could cause mild eye irritation.

Hazard Statements: Causes eye irritation. Signal word: Warning Pictogram: None

11.5 Carcinogen Classification: No product component is listed as a carcinogen by NTP, IARC or OSHA. Product is not classifiable as a carcinogen based upon available data – read across from sodium gluconate.

11.6 Tumorigenicity Classification: No product component is known to cause tumors. – Not classifiable based upon available data – read across from sodium gluconate.

11.7 Mutagenicity Classification: No component considered a mutagen – Not classifiable based upon available data.

11.8 Reproductive Effects Classification: The material does not meet classification criteria under US HCS 02012 – read across from sodium gluconate.

11.10 Target Organ Toxicity Single Exposure: The material does not meet classification criteria under US HCS 02012 – read across from sodium gluconate.

11.11 Target Organ Toxicity Repeat Exposure: The material does not meet classification criteria under US HCS 02012 – read across from sodium gluconate.

***** Section 12 – Ecological Data *****

12.1 Acute Aquatic Toxicity:

Component	Taxonomic Group	Species	Value
Sodium Glucoheptonate	Algae	Desmodesmus subcapitus	NOEC(72 hr) > 100 mg/L
<i>Values from Sodium gluconate read across</i>	Fish		LC0 (96hr) > 100 mg/L
	Crustacean	Daphnia magna	NOEC (48hr) > 1000 mg/L

12.2 Chronic Aquatic Toxicity: not available

12.3 Biodegradability: Readily biodegradable (sodium gluconate read across)

12.4 Bioaccumulation Potential: None ($\log K_{oc} < -3$) based upon sodium gluconate read across

12.5 Mobility in Soil: > 40% (based upon sodium gluconate read across)

12.6 Results of PBT and VPvB Assessment: classification criteria are not met

12.7 Environmental precautions: Avoid uncontrolled release to the environment.

*****Section 13 – Disposal Considerations*****

Waste disposal method: Consult local, state/provincial, or federal/national regulations when preparing to dispose of wastes or containers.

*****Section 14 – Transport Information*****

UN Number: Not found for mixture

DOT Non Bulk

Not regulated as dangerous goods.

DOT Bulk Not regulated as dangerous goods.

This product does not require a classification for transport.

******* Section 15 Regulatory Information *******

The following regulatory information is provided for components of product: (listed in descending order by percentage in formulation)

Toxic Substances Control Act: This substance is in compliance with the TSCA regulation of the United States.

US EPA TSCA: All components are Active or Exempt from US EPA TSCA inventory.

Chemicals Inventory Listings Found: Australia, China, Canada (DSL), EU (inventory of existing chemical substances)

Super Fund Amendments and Reauthorization Act (SARA): This product has no hazards as defined in Section 311/312 of 40 CFR Part 372

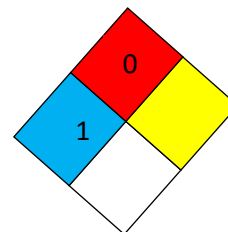
SARA 313 Reporting Requirements: This product contains no chemicals subject to reporting requirements of section 131 of Title III of SARA and 40 CFR Part 372

California Proposition 65: Products contains no chemicals known to cause cancer, birth defects or other reproductive harm according to Safe Drinking Water and Toxic Enforcement Act of 1986.

***** Section 16 Other Information *****

16.1 NFPA Ratings: Health 2, Flammability 0, Reactivity 0

Flash Point: aqueous mixture not flammable



Note NFPA ratings should only be used by those individuals trained to understand the coding system.

16.4 Safety Data Sheet History**Safety Data Sheet Number:** 2015-SGH50-001**Issue Date:** May 29, 2015**Revision Date:** May 9, 2024

Revision History: This SDS replaces all previous MSDS's for the SGH50 product. This SDS has been revised to comply with HCS 2102 in the US and includes the UN GHS classifications (Rev 4). September 2020 revision. Revision date change, footer correctio, no other substantive changes. May 9, 2024, revision correction of US EPA TSCA inventory statements, correction of percentages, correction of typographical errors detected in product number page 10.

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Abbreviations

IARC – International Agency for Research on Cancer
NTP – National Toxicology Protocol
NOAEL – no observable adverse effect level
LOAEL – lowest observable adverse effect level
LC₅₀ – lethal concentration 50%
LD₅₀ – lethal dose 50%
EC₅₀ – dose where 50% maximal effect was observed
LOEC – lowest observable effective concentration