Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

1 Identification

· **Product identifier**

· **Trade name: KS6446 - Hyamine Reagent**

· **Catalogue number:** 56Z644698, 56L644665, 56U644665

· **Application of the substance / the mixture:** Reagent for water analysis

· **Manufacturer/Supplier:**
Tintometer Inc.
6456 Parkland Drive
Sarasota, FL 34243
USA
phone: (941) 756-6410
fax: (941) 727-9654
www.lovibond.us
Made in Germany

· **Emergency telephone number:** + 1 866 928 0789 (English, French, Spanish)

2 Hazard(s) identification

· **Classification of the substance or mixture**

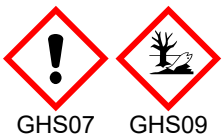

GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.


GHS07

Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2A H319 Causes serious eye irritation.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Hazard Communication Standard (HCS).
· **Hazard pictograms**


GHS07 GHS09

· **Signal word** Warning
· **Hazard statements**
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
· **Precautionary statements**
P280 Wear protective gloves / eye protection.
P273 Avoid release to the environment.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P302+P352 If on skin: Wash with plenty of water.
P337+P313 If eye irritation persists: Get medical advice/attention.

· **Other hazards** No further relevant information available.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 1)

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** aqueous solution
· **Composition and Information on Ingredients:**
Percent ranges are used due to the confidential product information.

CAS: 121-54-0 EINECS: 204-479-9 RTECS: BO7175000	Benzethonium chloride Acute Tox. 3, H301; Skin Corr. 1B, H314; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	≤2.5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with plenty of water.
If skin irritation continues, consult a doctor.
· **After eye contact:** Rinse opened eye for several minutes (at least 15 min) under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink 1-2 glasses of water.
If symptoms persist consult doctor.
· **Most important symptoms and effects, both acute and delayed**
irritations
after resorption:
cramps
cyanosis
coma
· **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
The product is not combustible.
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
nitrous gases
Nitrogen oxides (NOx)
Hydrogen chloride (HCl)
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
· **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Ambient fire may liberate hazardous vapours.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
· **Advice for non-emergency personnel:**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
· **Advice for emergency responders:** Protective equipment: see section 8

· **Environmental precautions:**
Do not allow product to reach sewage system or any water course.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 2)

Inform respective authorities in case of seepage into water course or sewage system.
· **Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Absorb with liquid-binding material (sand, diatomite, universal binders).
Dispose contaminated material as waste according to item 13.
· **Reference to other sections**
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

· **Precautions for safe handling**
· **Advice on safe handling:** No special precautions are necessary if used correctly.
· **Hygiene measures:**
Avoid contact with the skin.
Avoid contact with the eyes.
Take off immediately all contaminated clothing.
Wash hands before breaks and at the end of work.
Do not eat, drink or smoke when using this product.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:**
Protect from heat and direct sunlight.
Protect from exposure to the light.
Protect from humidity and water.
· **Recommended storage temperature:** 20°C +/- 5°C (approx. 68°F)

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Engineering measures:**
Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.
See item 7.

· **Personal protective equipment:**
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
· **Breathing equipment:** Use respiratory protective device against the effects of fume/dust/aerosol.
· **Recommended filter device for short term use:** Filter B
· **Protection of hands:**
Protective gloves
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
· **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.11 mm
· **Penetration time of glove material**
Value for the permeation: Level ≤ 1 (10 min)
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:** Safety glasses
· **Body protection:** Protective work clothing

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 3)

· **Limitation and supervision of exposure into the environment:**
Do not allow product to reach sewage system or any water course.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **Appearance:**	
· **Form / Physical state:**	Solution
· **Color:**	Colorless
· **Odor:**	Odorless
· **Odor threshold:**	Not applicable.
· **pH-value:**	Not determined.
· **Melting point/freezing point:**	Not determined.
· **Initial boiling point and boiling range:**	100°C (212°F) (CAS: 7732-18-5 water)
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not applicable.
· **Ignition temperature:**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not self-igniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Flammability or explosive limits:**	
· **Lower:**	Not applicable.
· **Upper:**	Not applicable.
· **Oxidizing properties:**	none
· **Vapor Pressure:**	Not determined.
· **Density at 20°C (68°F):**	1 g/cm³ (8.35 lbs/gal)
· **Relative density:**	Not determined.
· **Vapor density:**	Not determined.
· **Evaporation rate:**	Not determined.
· **Solubility(ies)**	
· **Water:**	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not applicable (mixture).
· **Viscosity:**	Not determined.
· **Kinematic:**	Not determined.
· **Other information**	
· **Solids content:**	< 5 %
· **Solvent content:**	
· **Organic solvents:**	0 %
· **Water:**	> 95 %

10 Stability and reactivity

· **Reactivity** see section "Possibility of hazardous reactions"
· **Chemical stability** Stable at ambient temperature (room temperature).
· **Possibility of hazardous reactions** No further relevant information available.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** see section 5

11 Toxicological information

· **Information on toxicological effects**

· **Acute toxicity:** Based on available data, the classification criteria are not met.

· **LD/LC50 values that are relevant for classification:**		
CAS: 121-54-0 Benzethonium chloride		
Oral	LD50	295 mg/kg (rat) (OECD 401)

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 4)

· **Primary irritant effect:**

· **on the skin:** Causes skin irritation.
· **on the eye:** Causes serious eye irritation.

· **Sensitization:** Based on available data, the classification criteria are not met.

· **Information on components:**		
CAS: 121-54-0 Benzethonium chloride		
Sensitization	OECD 406	(negative) (Magnusson / Klingman)

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

· **Other information:** see section 8 / 15

· **Synergistic Products:** None

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction):** The following statements refer to the mixture:

· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **Carcinogenicity** Based on available data, the classification criteria are not met.
· **Reproductive toxicity** Based on available data, the classification criteria are not met.

· **STOT (specific target organ toxicity) -single exposure** Based on available data, the classification criteria are not met.
· **STOT (specific target organ toxicity) -repeated exposure** Based on available data, the classification criteria are not met.

· **Aspiration hazard** Based on available data, the classification criteria are not met.

· **Information on components:**	
CAS: 121-54-0 Benzethonium chloride	
OECD 471	(negative) (Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative) (In Vitro Mammalian Cell Gene Mutation Test)
OECD 473	(negative) (Mammalian Chrimosomal Aberration Test)

· **Additional toxicological information:**
CAS: 121-54-0 Benzethonium chloride
. (.) Main toxic effects "Acute: Irritation through to corrosion to the eyes and the skin, potential to cause neurotoxic effects Chronic: Potential to damage the skin" [GESTIS]

12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**	
CAS: 121-54-0 Benzethonium chloride	
EC50	0.22 mg/l/48h (Daphnia magna) (OECD 202) (MERCK)
IC50	0.12 mg/l/72h (Desmodesmus subspicatus) (OECD) (MERCK)
LC50	1.15 mg/l/96h (rainbow trout) (OECD 203) (MERCK)

· **Persistence and degradability**	
CAS: 121-54-0 Benzethonium chloride	
OECD 301 E	0 % / 28 d (not biodegradable) (CO2 Evolution Test)

· **Bioaccumulative potential**
Pow = n-octanol/wasser partition coefficient

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 5)

log Pow 1-3 = Not worth-mentioning accumulating in organisms.

CAS: 121-54-0 Benzethonium chloride	
log Pow	1.08 (.) (OECD 107) (Merck)

· **Mobility in soil** No further relevant information available.
· **Other adverse effects** Avoid transfer into the environment.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Hand over to hazardous waste disposers.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

* 14 Transport information

· **UN-Number**	
· **DOT**	none
· **IMDG, IATA**	UN3082
· **UN proper shipping name**	
· **DOT**	none
· **IMDG**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzethonium chloride), MARINE POLLUTANT
· **IATA**	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Benzethonium chloride)
· **Transport hazard class(es)**	
· **DOT**	
· **Class**	none
· **IMDG, IATA**	

· **Class**	9 Miscellaneous dangerous substances and articles
· **Label**	9
· **Packing group**	
· **DOT**	none
· **IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (IATA):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Miscellaneous dangerous substances and articles
· **Hazard identification number (Kemler code):**	90
· **EMS Number:**	F-A,S-F
· **Stowage Category**	A
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 6)

· **Transport/Additional information:**

· **IMDG**
· **Limited quantities (LQ)** 5L
· **Excepted quantities (EQ)** Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (Extremely hazardous substances):**
None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients is listed.

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **New Jersey Right-to-Know List:**
None of the ingredients is listed.

· **New Jersey Special Hazardous Substance List:**
None of the ingredients is listed.

· **Pennsylvania Right-to-Know List:**
None of the ingredients is listed.

· **Pennsylvania Special Hazardous Substance List:**
None of the ingredients is listed.

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **Information about limitation of use:** Not required.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**
H301 Toxic if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H400 Very toxic to aquatic life.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS (HazCom 2012)

Printing date 02/17/2022 Reviewed on 02/17/2022

Trade name: KS6446 - Hyamine Reagent

(Contd. of page 7)

H410 Very toxic to aquatic life with long lasting effects.

· **Date of preparation / last revision** 02/17/2022 / 2

· **Abbreviations and acronyms:**
OECD: Organisation for Economic Co-operation and Development
STOT: specific target organ toxicity
SE: single exposure
RE: repeated exposure
EC50: half maximal effective concentration
IC50: hallf maximal inhibitory concentration
NOEL or NOEC: No Observed Effect Level or Concentration
ACGIH® - American Conference of Governmental Industrial Hygienists
•A1 - Confirmed human carcinogen
•A2 - Suspected human carcinogen
•A3 - Confirmed animal carcinogen with unknown relevance to humans
•A4 - Not classifiable as a human carcinogen
•A5 - Not suspected as a human carcinogen
IARC - International Agency for Research on Cancer
•Group 1 - Carcinogenic to humans
•Group 2A - Probably carcinogenic to humans
•Group 2B - Possibly carcinogenic to humans
•Group 3 - Not classifiable as to carcinogenicity to humans
•Group 4 - Probably not carcinogenic to humans
NTP - National Toxicology Program, U.S. Department of Health and Human Services
•Group K - Known to be Human Carcinogens
•Group R - Reasonably Anticipated to be Human Carcinogens
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

· **Sources** Data arise from safety data sheets, reference works and literature.

· *** Data compared to the previous version altered.**