

### Safety data sheet according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

#### SECTION 1: Identification of the substance/mixture and of the company/undertaking

· **1.1 Product identifier**

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

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

· **1.2 Relevant identified uses of the substance or mixture and uses advised against**

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

· **1.3 Details of the supplier of the safety data sheet**

· **Supplier:**

Tintometer GmbH  
Schleefstraße 8-12  
44287 Dortmund  
Made in Germany  
www.lovibond.com

phone: +49 (0)231 94510-0  
e-mail: sales@lovibond.com

The Tintometer Limited  
Lovibond® House  
Sun Rise Way  
Amesbury  
Wiltshire SP4 7GR  
United Kingdom

phone : +44 1980 664800  
e-mail: SDS@lovibond.uk

· **Informing department:**

e-mail: sds@lovibond.com  
Product Safety Department

· **1.4 Emergency telephone number:**

+44 1235 239670  
Languages: English

#### SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS09 environment

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



GHS07

Skin Irrit. 2

H315 Causes skin irritation.

Eye Irrit. 2

H319 Causes serious eye irritation.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS07



GHS09

· **Signal word** Warning

(Contd. on page 2)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

**Product name: KS6446 - Hyamine Reagent**

(Contd. of page 1)

**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.

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

**Results of PBT and vPvB assessment**

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

**Determination of endocrine-disrupting properties**

The product does not contain substances with endocrine disrupting properties.

### SECTION 3: Composition/information on ingredients

**3.2 Mixtures**

**Description:** aqueous solution

**Dangerous components:**

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

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

### SECTION 4: First aid measures

**4.1 Description of first aid measures**

- General information** Instantly remove any clothing soiled by the product.  
**After inhalation** Supply fresh air; consult doctor in case of symptoms.  
**After skin contact**  
 Instantly rinse with 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 doctor.  
**After swallowing**  
 Rinse out mouth and then drink 1-2 glasses of water.  
 In case of persistent symptoms consult doctor.

**4.2 Most important symptoms and effects, both acute and delayed:**

irritations  
 after absorption:  
 cramps  
 cyanosis  
 coma

**4.3 Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

### SECTION 5: Firefighting measures

**5.1 Extinguishing media**

**Suitable extinguishing agents** Use fire fighting measures that suit the environment.

**5.2 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.  
 Can be released in case of fire:  
 nitrous gases  
 Nitrogen oxides (NO<sub>x</sub>)  
 Hydrogen chloride (HCl)

(Contd. on page 3)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

---

**Product name: KS6446 - Hyamine Reagent**


---

(Contd. of page 2)

- **5.3 Advice for firefighters**

- **Protective equipment:**

- Wear self-contained breathing apparatus.

- Wear full protective suit.

- **Additional information**

- Collect contaminated fire fighting water separately. It must not enter drains.

- Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

- Ambient fire may liberate hazardous vapours.

---

### SECTION 6: Accidental release measures

- **6.1 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

- **6.2 Environmental precautions:**

- Do not allow product to reach sewage system or water bodies.

- Inform respective authorities in case product reaches water or sewage system.

- **6.3 Methods and material for containment and cleaning up:**

- Ensure adequate ventilation.

- Absorb with liquid-binding material (sand, diatomite, universal binders).

- Dispose of contaminated material as waste according to item 13.

- **6.4 Reference to other sections**

- See Section 8 for information on personal protection equipment.

- See Section 13 for information on disposal.

---

### SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

- **Advice on safe handling:** No special precautions necessary if used correctly.

- **Hygiene measures:**

- Avoid contact with the skin.

- Avoid contact with the eyes.

- Take off immediately all contaminated clothing.

- Wash hands during breaks and at the end of the work.

- Do not eat, drink or smoke when using this product.

- **7.2 Conditions for safe storage, including any incompatibilities**

- **Requirements to be met by storerooms and containers:** Store in 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 the effects of light.

- Protect from humidity and keep away from water.

- **Recommended storage temperature:** 20°C +/- 5°C

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

---

### SECTION 8: Exposure controls/personal protection

- **8.1 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.

- **Recommended monitoring procedures:**

- Methods for measurement of the workplace atmosphere have to correspond to the requirements of norms DIN EN 482 and DIN EN 689.

- **Additional information:** The lists that were valid during the compilation were used as basis.

- **8.2 Exposure controls**

- **Engineering measures:**

- Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

(Contd. on page 4)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

**Product name: KS6446 - Hyamine Reagent**

(Contd. of page 3)

See item 7.

- **Individual protection measures, such as personal protective equipment**  
Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled.
- **Eye/face protection** Safety glasses
- **Hand protection**  
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:  $\geq 0.11$  mm
- **Penetration time of glove material**  
Value for the permeation: Level = 1 ( < 10 min )  
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Other skin protection (body protection):** Protective work clothing.
- **Breathing equipment:** Use breathing protection against the effects of fumes/dust/aerosol.
- **Recommended filter device for short term use:** Filter B
- **Environmental exposure controls** Do not allow product to reach sewage system or water bodies.

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **Physical state** Fluid
- **Form:** Solution
- **Colour:** Colourless
- **Odour:** Odourless
- **Odour threshold:** Not applicable.
- **Melting point/Freezing point:** Not determined.
- **Boiling point or initial boiling point and boiling range** 100°C (CAS: 7732-18-5 water)
- **Flammability** Not applicable.
- **Explosive properties:** Product is not explosive.
- **Lower and upper explosion limit**
  - Lower: Not applicable.
  - Upper: Not applicable.
- **Flash point:** Not applicable.
- **Auto-ignition temperature:** Not applicable.
- **Decomposition temperature:** Not determined.
- **pH** Not determined.
- **Kinematic viscosity** Not determined.
- **Solubility**
- **Water:** Fully miscible
- **Partition coefficient n-octanol/water (log value)** Not applicable (mixture).
- **Vapour pressure:** Not determined.
- **Density and/or relative density**
- **Density at 20°C:** 1 g/cm<sup>3</sup>
- **Relative density:** Not determined.
- **Relative gas density** Not determined.
- **Particle characteristics** Not applicable (liquid).

#### · 9.2 Other information

- **Information with regard to physical hazard classes**
- **Corrosive to metals** Void
- **Other safety characteristics**
- **Oxidising properties:** none
- **Additional information**
- **Solids content:** < 5 %
- **Solvent content:**
- **Organic solvents:** 0 %

(Contd. on page 5)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

**Product name: KS6446 - Hyamine Reagent**

(Contd. of page 4)

<b>Water:</b>	> 95 %
---------------	--------

### SECTION 10: Stability and reactivity

- **10.1 Reactivity** see section 10.3
- **10.2 Chemical stability** Stable at ambient temperature (room temperature).
- **10.3 Possibility of hazardous reactions** No further relevant information available.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** see section 5

### SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**

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

- **LD/LC50 values that are relevant for classification:**

<b>CAS: 121-54-0 Benzethonium chloride</b>		
Oral	LD50	295 mg/kg (rat) (OECD 401)

- **Skin corrosion/irritation** Causes skin irritation.
- **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

- **Information on components:**

<b>CAS: 121-54-0 Benzethonium chloride</b>		
Sensitisation	OECD 406	(negative) (Magnusson / Klingman)

- **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.

- **Information on components:**

<b>CAS: 121-54-0 Benzethonium chloride</b>		
OECD 471	(negative)	(Bacterial Reverse Mutation Test - Ames test)
OECD 476	(negative)	(In Vitro Mammalian Cell Gene Mutation Test)
OECD 473	(negative)	(Mammalian Chromosomal Aberration Test)

- **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.

- **Additional toxicological information:**

<b>CAS: 121-54-0 Benzethonium chloride</b>		
.	(source: GESTIS)	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

- **11.2 Information on other hazards**
- **Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.

— GB —

(Contd. on page 6)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

Product name: **KS6446 - Hyamine Reagent**

(Contd. of page 5)

### SECTION 12: Ecological information

#### · 12.1 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)

#### · 12.2 Persistence and degradability

##### CAS: 121-54-0 Benzethonium chloride

OECD 301 E | 0 % / 28 d (not biodegradable) (CO2 Evolution Test)

#### · 12.3 Bioaccumulative potential

Pow = n-octanol/wasser partition coefficient

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

##### CAS: 121-54-0 Benzethonium chloride

log Pow | 1.08 (.) (OECD 107)  
(Merck)

#### · 12.4 Mobility in soil

No further relevant information available.

#### · 12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be persistent, bioaccumulative and toxic (PBT) or very persistent and very bioaccumulative (vPvB), according to the criteria given in Annex XIII of Regulation (EC) No. 1907/2006.

#### · 12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

#### · 12.7 Other adverse effects

Avoid transfer into the environment.

#### · Water hazard:

Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralised.

### SECTION 13: Disposal considerations

#### · 13.1 Waste treatment methods

##### · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

Hand over to disposers of hazardous waste.

##### · European waste catalogue

16 05 08\* | discarded organic chemicals consisting of or containing hazardous substances

#### · Uncleaned packagings:

##### · Recommendation:

Disposal must be made according to official regulations.

##### · Recommended cleaning agent:

Water, if necessary with cleaning agent.

### SECTION 14: Transport information

#### · 14.1 UN number or ID number

· ADR, IMDG, IATA | UN3082

#### · 14.2 UN proper shipping name

· ADR | 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Benzethonium chloride)

· IMDG | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Benzethonium chloride), MARINE POLLUTANT

· IATA | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(Benzethonium chloride)

(Contd. on page 7)

GB

# Safety data sheet

## according to 1907/2006/EC, Article 31



Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

**Product name: KS6446 - Hyamine Reagent**

(Contd. of page 6)

<ul style="list-style-type: none"> <li>· <b>14.3 Transport hazard class(es)</b></li> <li>· <b>ADR</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	9 (M6) Miscellaneous dangerous substances and articles. 9
<ul style="list-style-type: none"> <li>· <b>IMDG, IATA</b></li> </ul>	
	
<ul style="list-style-type: none"> <li>· <b>Class</b></li> <li>· <b>Label</b></li> </ul>	9 Miscellaneous dangerous substances and articles. 9
<ul style="list-style-type: none"> <li>· <b>14.4 Packing group</b></li> <li>· <b>ADR, IMDG, IATA</b></li> </ul>	
III	
<ul style="list-style-type: none"> <li>· <b>14.5 Environmental hazards:</b></li> <li>· <b>Marine pollutant:</b></li> <li>· <b>Special marking (ADR):</b></li> <li>· <b>Special marking (IATA):</b></li> </ul>	
Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)	
<ul style="list-style-type: none"> <li>· <b>14.6 Special precautions for user</b></li> <li>· <b>Kemler Number:</b></li> <li>· <b>EMS Number:</b></li> <li>· <b>Stowage Category</b></li> </ul>	
Warning: Miscellaneous dangerous substances and articles. 90 F-A,S-F A	
<ul style="list-style-type: none"> <li>· <b>14.7 Maritime transport in bulk according to IMO instruments</b></li> </ul>	
Not applicable.	
<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> </ul>	
<ul style="list-style-type: none"> <li>· <b>ADR</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	
5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml	
<ul style="list-style-type: none"> <li>· <b>Transport category</b></li> <li>· <b>Tunnel restriction code</b></li> </ul>	
3 (-)	
<ul style="list-style-type: none"> <li>· <b>IMDG</b></li> <li>· <b>Limited quantities (LQ)</b></li> <li>· <b>Excepted quantities (EQ)</b></li> </ul>	
5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml	

### SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Poisons Act UK**

- **Regulated explosives precursors**

None of the ingredients is listed.

- **Regulated poisons**

None of the ingredients is listed.

- **Reportable explosives precursors**

None of the ingredients is listed.

- **Reportable poisons**

None of the ingredients is listed.

(Contd. on page 8)

# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

**Product name: KS6446 - Hyamine Reagent**

(Contd. of page 7)

· <b>Regulation (EU) 2019/1148 on the marketing and use of explosives precursors</b> not regulated
· <b>Regulation (EU) No 649/2012 concerning the export and import of hazardous chemicals (PIC)</b> None of the ingredients is listed.
· <b>Regulation (EC) No 1334/2000 setting up a Community regime for the control of exports of dual-use items and technology:</b> None of the ingredients is listed.
· <b>Regulation (EC) No 273/2004 on drug precursors</b> None of the ingredients is listed.
· <b>Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors</b> None of the ingredients is listed.
· <b>Regulation (EC) No 1005/2009 on substances that deplete the ozone layer:</b> None of the ingredients is listed.
· <b>REGULATION (EU) 2019/1021 on persistent organic pollutants (POP)</b> None of the ingredients is listed.
· <b>LIST OF SUBSTANCES SUBJECT TO AUTHORISATION (ANNEX XIV)</b> None of the ingredients is listed.
· <b>Substances of very high concern (SVHC) according to REACH, Article 57</b> This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· <b>Substances of very high concern (SVHC) according to UK REACH</b> This product does not contain any substances of very high concern above the legal concentration limit of $\geq 0.1\%$ (w / w).
· <b>Directive 2012/18/EU (SEVESO III):</b>
· <b>Named dangerous substances - ANNEX I</b> Benzethonium chloride
· <b>Qualifying quantity (tonnes) for the application of lower-tier requirements</b> 200 t
· <b>Qualifying quantity (tonnes) for the application of upper-tier requirements</b> 500 t
· <b>REGULATION (EC) No 1907/2006 ANNEX XVII</b> Conditions of restriction: 3
· <b>Information about limitation of use:</b> Not required.
· <b>15.2 Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.

### SECTION 16: Other information

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

This Safety Data Sheet is in compliance with Regulation (EC) No 1907/2006, Article 31 as amended by Regulation (EU) 2020/878.

· **Training hints** Provide adequate information, instruction and training for operators.

· **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.

H410 Very toxic to aquatic life with long lasting effects.

· **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: half maximal inhibitory concentration

NOEL or NOEC: No Observed Effect Level or Concentration

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

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

(Contd. on page 9)

— GB —



# Safety data sheet

## according to 1907/2006/EC, Article 31

Printing date 15.11.2023

Version number 3 (replaces version 2)

Revision: 15.11.2023

---

**Product name: KS6446 - Hyamine Reagent**

---

(Contd. of page 8)

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

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. 2: Serious eye damage/eye irritation – Category 2

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.**

---

GB