

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

## 1 Identification

- **Product identifier**
- **Trade name:** Nessler's Reagent  
Special for Acetone Test
- **Article number:** CG001
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Aqua Solutions, Inc.  
6913 Highway 225  
DEER PARK, TX 77536  
USA  
800-256-2586
- **Information department:**  
Technical Coordinator  
Sherman Nelson [shermann@aquasolutions.org](mailto:shermann@aquasolutions.org)
- **Emergency telephone number:**  
Chemtrec: 800-424-9300  
Canutec: 613-996-6666



## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS08 Health hazard

Muta. 2 H341 Suspected of causing genetic defects.

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.



GHS05 Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS05



GHS06



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Sodium Hydroxide

(Contd. on page 2)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 1)

*Mercuric Chloride**Potassium Iodide*

- **Hazard statements**

*Toxic if swallowed.**Causes severe skin burns and eye damage.**Suspected of causing genetic defects.**Suspected of damaging fertility or the unborn child.**Causes damage to organs through prolonged or repeated exposure.*

- **Precautionary statements**

*Obtain special instructions before use.**Do not handle until all safety precautions have been read and understood.**Do not breathe dusts or mists.**Wash thoroughly after handling.**Do not eat, drink or smoke when using this product.**Wear protective gloves/protective clothing/eye protection/face protection.**If swallowed: Immediately call a poison center/doctor.**Specific treatment (see on this label).**If swallowed: Rinse mouth. Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**IF INHALED: Remove person to fresh air and keep comfortable for breathing.**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.**Get medical advice/attention if you feel unwell.**Wash contaminated clothing before reuse.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**

*Health = 3**Fire = 0**Reactivity = 0*

- **HMIS-ratings (scale 0 - 4)**

*Health = 3**Fire = 0**Reactivity = 1*

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 1310-73-2	Sodium Hydroxide	9.19%
CAS: 7681-11-0	Potassium Iodide	4.411%

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent  
Special for Acetone Test**

(Contd. of page 2)

CAS: 7487-94-7 Mercuric Chloride

1.666%

**· Table of Nonhazardous Ingredients**

CAS: 7732-18-5 Water

84.733%

## 4 First-aid measures

**· Description of first aid measures**

**· General information:**

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

In case of irregular breathing or respiratory arrest provide artificial respiration.

**· After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

**· After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**· After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**· After swallowing:**

Do not induce vomiting; immediately call for medical help.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

**· Information for doctor:**

**· Most important symptoms and effects, both acute and delayed** No further relevant information available.

**· 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**

During heating or in case of fire poisonous gases are produced.

**· Advice for firefighters**

**· Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

**· Personal precautions, protective equipment and emergency procedures**

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

**· Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

**· Methods and material for containment and cleaning up:**

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

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

**· Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 3)

### · Protective Action Criteria for Chemicals

#### · PAC-1:

CAS: 1310-73-2	Sodium Hydroxide	0.5 mg/m <sup>3</sup>
CAS: 7681-11-0	Potassium Iodide	1.3 mg/m <sup>3</sup>
CAS: 7487-94-7	Mercuric Chloride	0.1 mg/m <sup>3</sup>

#### · PAC-2:

CAS: 1310-73-2	Sodium Hydroxide	5 mg/m <sup>3</sup>
CAS: 7681-11-0	Potassium Iodide	15 mg/m <sup>3</sup>
CAS: 7487-94-7	Mercuric Chloride	0.14 mg/m <sup>3</sup>

#### · PAC-3:

CAS: 1310-73-2	Sodium Hydroxide	50 mg/m <sup>3</sup>
CAS: 7681-11-0	Potassium Iodide	87 mg/m <sup>3</sup>
CAS: 7487-94-7	Mercuric Chloride	38 mg/m <sup>3</sup>

## 7 Handling and storage

### · Handling:

#### · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· **Information about protection against explosions and fires:** Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**

#### · Storage:

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep receptacle tightly sealed.

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

## 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

### · Control parameters

#### · Components with limit values that require monitoring at the workplace:

<b>CAS: 1310-73-2 Sodium Hydroxide</b>	
PEL	Long-term value: 2 mg/m <sup>3</sup>
REL	Ceiling limit value: 2 mg/m <sup>3</sup>
TLV	Ceiling limit value: 2 mg/m <sup>3</sup>
<b>CAS: 7681-11-0 Potassium Iodide</b>	
TLV	Long-term value: 0.015* mg/m <sup>3</sup>
	Skin; *inhalation

(Contd. on page 5)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent  
Special for Acetone Test**

(Contd. of page 4)

**CAS: 7487-94-7 Mercuric Chloride**

PEL	Long-term value: 0.1 mg/m <sup>3</sup> as Hg; see OSHA standard interpretation memo
REL	Long-term value: 0.05* mg/m <sup>3</sup> Ceiling limit value: 0.1 mg/m <sup>3</sup> as Hg; *Vapor; Skin
TLV	Long-term value: 0.025 mg/m <sup>3</sup> as Hg; Skin; BEI

**· Ingredients with biological limit values:****CAS: 7487-94-7 Mercuric Chloride**

BEI	35 µg/L LD50 Intraperitoneal: urine Time: prior to shift LD50: Total inorganic mercury (background)
	15 µg/L LD50 Intraperitoneal: blood Time: end of shift at end of workweek LD50: Total inorganic mercury (background)

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

**· Exposure controls****· Personal protective equipment:****· General protective and hygienic measures:**

- Keep away from foodstuffs, beverages and feed.
- Immediately remove all soiled and contaminated clothing.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Avoid contact with the eyes.
- Avoid contact with the eyes and skin.

**· Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

**· Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

**· Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

**· Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

(Contd. on page 6)

US

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 5)

· **Eye protection:**

Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**· **General Information**· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Yellow
<b>Odor:</b>	Odorless
<b>Odor threshold:</b>	Not determined.

· **pH-value:** Not determined.· **Change in condition**

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	100 °C (212 °F)

· **Flash point:** Not applicable.· **Flammability (solid, gaseous):** Not applicable.· **Decomposition temperature:** Not determined.· **Auto igniting:** Product is not selfigniting.· **Danger of explosion:** Product does not present an explosion hazard.· **Explosion limits:**

<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.

· **Vapor pressure at 20 °C (68 °F):** 23 hPa (17.3 mm Hg)· **Density at 20 °C (68 °F):** 1.10177 g/cm<sup>3</sup> (9.19427 lbs/gal)· **Relative density** Not determined.· **Vapor density** Not determined.· **Evaporation rate** Not determined.· **Solubility in / Miscibility with****Water:** Fully miscible.· **Partition coefficient (n-octanol/water):** Not determined.· **Viscosity:**

<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.

· **Solvent content:**

<b>Water:</b>	84.7 %
<b>VOC content:</b>	0.00 %
	0.0 g/l / 0.00 lb/gal

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 6)

**Solids content:** 15.3 %

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

## 10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**

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

**ATE (Acute Toxicity Estimate)**

Oral	LD50	59.7 mg/kg
------	------	------------

Dermal	LD50	2,460 mg/kg (rat)
--------	------	-------------------

**CAS: 1310-73-2 Sodium Hydroxide**

Oral	LD50	500 mg/kg (ATE)
------	------	-----------------

**CAS: 7487-94-7 Mercuric Chloride**

Oral	LD50	5 mg/kg (ATE)
------	------	---------------

Dermal	LD50	5 mg/kg (ATE)
--------	------	---------------

- **Primary irritant effect:**
- **on the skin:** Strong caustic effect on skin and mucous membranes.
- **on the eye:**  
Strong caustic effect.  
Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Toxic  
Corrosive  
Irritant  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

CAS: 7487-94-7	Mercuric Chloride	3
----------------	-------------------	---

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent  
Special for Acetone Test**

(Contd. of page 7)

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 2 (Self-assessment): hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**  
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **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, IMDG, IATA** UN2922
- **UN proper shipping name**
- **DOT** Corrosive liquids, toxic, n.o.s. (Sodium hydroxide, Mercuric chloride)
- **IMDG, IATA** CORROSIVE LIQUID, TOXIC, N.O.S. (SODIUM HYDROXIDE, MERCURIC CHLORIDE)

(Contd. on page 9)

US



# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 8)

· **Transport hazard class(es)**

· **DOT**



· **Class** 8 Corrosive substances  
 · **Label** 8, 6.1

· **IMDG**



· **Class** 8 Corrosive substances  
 · **Label** 8/6.1

· **IATA**



· **Class** 8 Corrosive substances  
 · **Label** 8 (6.1)

· **Packing group**  
 · **DOT, IMDG, IATA** II

· **Environmental hazards:**  
 · **Marine pollutant:** No  
 Yes (DOT)

· **Special precautions for user** Warning: Corrosive substances  
 · **Hazard identification number (Kemler code):** 86  
 · **EMS Number:** F-A,S-B  
 · **Segregation groups** Alkalis, heavy metals and their salts (including their organometallic compounds), mercury and mercury compounds  
 · **Stowage Category** B  
 · **Stowage Code** SW2 Clear of living quarters.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**  
 · **Quantity limitations** On passenger aircraft/rail: 1 L  
 On cargo aircraft only: 30 L  
 · **Remarks:** Special marking with the symbol (fish and tree).

· **IMDG**  
 · **Limited quantities (LQ)** 1L

(Contd. on page 10)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 9)

· **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

· **UN "Model Regulation":**

UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (SODIUM HYDROXIDE, MERCURIC CHLORIDE), 8 (6.1), II

## 15 Regulatory information

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

No further relevant information available.

· **Sara**· **Section 355 (extremely hazardous substances):**

CAS: 7487-94-7 Mercuric Chloride

· **Section 313 (Specific toxic chemical listings):**

CAS: 7487-94-7 Mercuric Chloride

· **TSCA (Toxic Substances Control Act):**

Water

ACTIVE

Sodium Hydroxide

ACTIVE

Potassium Iodide

ACTIVE

Mercuric Chloride

ACTIVE

· **Hazardous Air Pollutants**

CAS: 7487-94-7 Mercuric Chloride

· **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:**

CAS: 7487-94-7 Mercuric Chloride

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

CAS: 7487-94-7 Mercuric Chloride

C

· **TLV (Threshold Limit Value)**

CAS: 7487-94-7 Mercuric Chloride

A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

(Contd. on page 11)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent  
Special for Acetone Test**

(Contd. of page 10)

· **Hazard pictograms**



GHS05    GHS06    GHS08

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

*Sodium Hydroxide  
Mercuric Chloride  
Potassium Iodide*

· **Hazard statements**

*Toxic if swallowed.  
Causes severe skin burns and eye damage.  
Suspected of causing genetic defects.  
Suspected of damaging fertility or the unborn child.  
Causes damage to organs through prolonged or repeated exposure.*

· **Precautionary statements**

*Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dusts or mists.  
Wash thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If swallowed: Immediately call a poison center/doctor.  
Specific treatment (see on this label).  
If swallowed: Rinse mouth. Do NOT induce vomiting.  
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
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.  
Get medical advice/attention if you feel unwell.  
Wash contaminated clothing before reuse.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **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.*

· **Department issuing SDS:** *Environment protection department.*

· **Contact:**

· **Date of preparation / last revision**

*Revision 0.0, 08-30-2016, Creation date for SDS. STN  
Revision 1.0 05-07-2021: updated hazard information. STN  
05/27/2021 / 1.0*

· **Abbreviations and acronyms:**

*IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association*

(Contd. on page 12)

**Safety Data Sheet**  
**acc. to OSHA HCS**

Printing date 05/27/2021

Reviewed on 05/27/2021

**Trade name: Nessler's Reagent**  
**Special for Acetone Test**

(Contd. of page 11)

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)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEI: Biological Exposure Limit  
Acute Tox. 3: Acute toxicity – Category 3  
Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Muta. 2: Germ cell mutagenicity – Category 2  
Repr. 2: Reproductive toxicity – Category 2  
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

• **\* Data compared to the previous version altered.**

US