## Hayem's reagent

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

### 1.1. Product identifier

Hayem's reagent
1.2. Relevant identified uses of the substance or mixture and uses advised against Use of the substance/mixture

Use as laboratory reagent
1.3. Details of the supplier of the safety data sheet

Company name:
Street:
Place:
Post-office box:

Telephone:
Responsible Department:
1.4. Emergency telephone number:

Waldeck GmbH \& Co KG
Havixbecker Str. 62
D-48161 Münster
410180
D-48065 Münster
+49(0)180/2247662 Telefax:+49(0)180/1247662
Labor
Mo. - Do.: 08.00 - 17.00 Uhr, Fr.: 08.00 - 15.00 Uhr
+49(0)180/2247662

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008
Hazard categories:
Acute toxicity: Acute Tox. 4
Hazardous to the aquatic environment: Aquatic Chronic 3
Hazard Statements:
Harmful if swallowed.
Harmful to aquatic life with long lasting effects.

### 2.2. Label elements

Regulation (EC) No. 1272/2008
Hazard components for labelling mercury dichloride; mercuric chloride
Signal word:
Warning
Pictograms:


## Hazard statements

H302 Harmful if swallowed.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statements
P273 Avoid release to the environment.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
2.3. Other hazards

No information available.
SECTION 3: Composition/information on ingredients

## Hayem's reagent

Print date: 07.12.2015
Product code: H45
Page 2 of 8

### 3.2. Mixtures

Hazardous components

| CAS No | Chemical name |  |  | Quantity |
| :---: | :---: | :---: | :---: | :---: |
|  | EC No | Index No | REACH No |  |
|  | Classification according to Regulation (EC) No. 1272/2008 [CLP] |  |  |  |
| 7487-94-7 | mercury dichloride; mercuric chloride |  |  | < 1 \% |
|  | 231-299-8 | 080-010-00-X |  |  |
|  | Muta. 2, Repr. 2, Acute Tox. 2, STOT RE 1, Skin Corr. 1B, Aquatic Acute 1 (M-Factor = 1), Aquatic Chronic 1; H341 H361f *** H300 H372 ** H314 H400 H410 |  |  |  |

Full text of H and EUH statements: see section 16.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

## General information

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

## After inhalation

Provide fresh air.

## After contact with skin

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap.

## After contact with eyes

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

## After ingestion

Rinse mouth immediately and drink plenty of water. Medical treatment necessary.

### 4.2. Most important symptoms and effects, both acute and delayed

 No information available.
### 4.3. Indication of any immediate medical attention and special treatment needed

 Treat symptomatically.
## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media
Co-ordinate fire-fighting measures to the fire surroundings.

### 5.2. Special hazards arising from the substance or mixture

Non-flammable.
In case of fire may be liberated: Hazardous combustion products.

### 5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

## Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.
Do not allow entering drains or surface water.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and

## Hayem's reagent

clothes. Use personal protection equipment.

### 6.2. Environmental precautions

Do not allow to enter into surface water or drains.
6.3. Methods and material for containment and cleaning up

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

### 6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

## Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

## Advice on protection against fire and explosion

No special fire protection measures are necessary.

### 7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed.
Advice on storage compatibility
No special measures are necessary.

### 7.3. Specific end use(s)

Use as laboratory reagent

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

## Exposure limits (EH40)

| CAS No | Substance | ppm | $\mathrm{mg} / \mathrm{m}^{3}$ | fibres $/ \mathrm{ml}$ | Category | Origin |
| :--- | :--- | ---: | ---: | ---: | ---: | :---: |
| - | Mercury: divalent inorganic mercury <br> compounds including mercuric oxide and <br> mercuric chloride (measured as mercury) | -0.02 |  | TWA (8 h) |  |  |

### 8.2. Exposure controls



Protective and hygiene measures
Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink.

Eye/face protection
Wear eye/face protection.

## Hayem's reagent

## Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

## Skin protection

Wear suitable protective clothing.

## Respiratory protection

In case of inadequate ventilation wear respiratory protection.

## SECTION 9: Physical and chemical properties

| 9.1. Information on basic physical and chemical properties |  |
| :--- | :--- |
| Physical state: | liquid |
| Colour: | colourless |
| Odour: | odourless |

pH -Value (at $20^{\circ} \mathrm{C}$ ):

Changes in the physical state
Melting point: not determined

Initial boiling point and boiling range:
Flash point:
not determined
not determined
Flammability
Solid: not applicable

Gas:
Lower explosion limits:
not applicable

Upper explosion limits:
not determined
not determined

## Auto-ignition temperature

Solid: not applicable
Gas:
Decomposition temperature:
not applicable

Oxidizing properties
Not oxidizing.
Vapour pressure:
not determined

Density (at $20^{\circ} \mathrm{C}$ ):
Water solubility:
(at $20^{\circ} \mathrm{C}$ )
Solubility in other solvents
not determined
Partition coefficient: not determined
Vapour density: not determined
Evaporation rate:
not determined

### 9.2. Other information

Solid content:
not determined

## Hayem's reagent

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

### 10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.
10.3. Possibility of hazardous reactions

No known hazardous reactions.
10.4. Conditions to avoid
none

### 10.5. Incompatible materials

No information available.

### 10.6. Hazardous decomposition products

No known hazardous decomposition products.

## SECTION 11: Toxicological information

11.1. Information on toxicological effects
Acute toxicity
Harmful if swallowed.
ATEmix calculated
ATE (oral) $400,0 \mathrm{mg} / \mathrm{kg}$

| CAS No | Chemical name |  | Method | Dose | Species |
| :--- | :--- | :--- | :--- | :--- | :--- |
|  | Exposure routes |  |  | Source |  |
| $7487-94-7$ | mercury dichloride; mercuric chloride | RTECS |  |  |  |
|  | oral | LD50 $\quad 1 \mathrm{mg} / \mathrm{kg}$ | Rat |  |  |

Irritation and corrosivity
Based on available data, the classification criteria are not met.
Sensitising effects
Based on available data, the classification criteria are not met.
STOT-single exposure
Based on available data, the classification criteria are not met.
Severe effects after repeated or prolonged exposure
Based on available data, the classification criteria are not met.
Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
Aspiration hazard
Based on available data, the classification criteria are not met.

## Additional information on tests

This mixture is classified as hazardous according to regulation (EC) No. 1272/2008 [CLP].

## SECTION 12: Ecological information

### 12.1. Toxicity

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

| CAS No | Chemical name |  |  |  |  |  |  |  |  |  |  |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- | :---: | :---: | :---: | :---: | :---: |
|  | Aquatic toxicity | Method | Dose | $[\mathrm{h}] \mid[\mathrm{d}]$ | Species | Source |  |  |  |  |  |
| $7487-94-7$ | mercury dichloride; mercuric chloride |  |  |  |  |  |  |  |  |  |  |
|  | Acute fish toxicity | LC50 | $0,13 \mathrm{mg} / \mathrm{l}$ | $96 \mathrm{~h} \mid$ Leuciscus idus |  |  |  |  |  |  |  |

### 12.2. Persistence and degradability

The product has not been tested.

### 12.3. Bioaccumulative potential

The product has not been tested.
12.4. Mobility in soil

The product has not been tested.

### 12.5. Results of PBT and vPvB assessment

The product has not been tested.

### 12.6. Other adverse effects

No information available.
Further information
Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

## Advice on disposal

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. Dispose of waste according to applicable legislation.

## Contaminated packaging

Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

## SECTION 14: Transport information

Land transport (ADR/RID)

### 14.1. UN number:

14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

Hazard label:

Classification code:
Special Provisions:
Limited quantity:
Excepted quantity:
Transport category:
Hazard No:
Tunnel restriction code:
Inland waterways transport (ADN)
14.1. UN number:

UN 3082
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (mercury dichloride; mercuric chloride)

```
9
```

III

9

## allu.

M6
274335375601
5 L
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3
90
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UN 3082

## Hayem's reagent

Product code: H45
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (mercury dichloride; mercuric chloride)
14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

Hazard label:

Classification code:
Special Provisions:
Limited quantity:
Excepted quantity:
Marine transport (IMDG)
14.1. UN number:
14.2. UN proper shipping name:
14.3. Transport hazard class(es):

### 14.4. Packing group:

Hazard label:

Special Provisions:
Limited quantity:
Excepted quantity:
EmS:
Air transport (ICAO)
14.1. UN number:
14.2. UN proper shipping name:
14.3. Transport hazard class(es):
14.4. Packing group:

Hazard label:

Special Provisions:
Limited quantity Passenger:
Passenger LQ:
Excepted quantity:
IATA-packing instructions - Passenger:
IATA-max. quantity - Passenger:
IATA-packing instructions - Cargo:
IATA-max. quantity - Cargo:

964
450 L

### 14.6. Special precautions for user

No information available.
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code not applicable

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

## EU regulatory information

Additional information
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers. Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).

## National regulatory information

Employment restrictions:

Water contaminating class (D):
Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC). Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.
15.2. Chemical safety assessment

2 - water contaminating

Chemical safety assessments for substances in this mixture were not carried out.

## SECTION 16: Other information

## Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route
(European Agreement concerning the International Carriage of Dangerous Goods by Road )
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized 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
LC50: Lethal concentration, $50 \%$
LD50: Lethal dose, 50\%
Relevant H and EUH statements (number and full text)

| H300 | Fatal if swallowed. |
| :--- | :--- |
| H302 | Harmful if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H341 | Suspected of causing genetic defects. |
| H361f | Suspected of damaging fertility. |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

## Further Information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.
(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)

