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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

*

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

· **1.1 Product identifier**

· **Trade name: UV-lamp**

· **Article number:** 582034 80, 9007810 80
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Article category** AC2 Machinery, mechanical appliances, electrical/electronic articles
· **Application of the substance / the mixture** Water disinfectant

· **1.3 Details of the supplier of the safety data sheet**
· **Supplier:**
Alfa Laval Tumba AB
Hans Stahles väg 7
S-147 80 Tumba
Sweden
+46 8 530 650 00
info.se@alfalaval.com

· **Further information obtainable from:**
This product is an article. There are no legal obligation to issue a safety data sheet for articles. This document is provided as a courtesy to convey safety information down the supply chain.
For further questions regarding the safety data sheet, please contact your local Alfa Laval Sales Company which you find at www.alfalaval.com or in section 16 "Other Information" in the end of the safety data sheet
· **1.4 Emergency telephone number:**
For immediate, life-threatening emergencies, call 999
For health advice and information (24h) dial 111 (NHS direct).

In Europe: Call 112 and ask for poison information.
U.S. emergency number: 911

*

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
This product is an article. The classification is made on the substances or mixtures contained in the article.
· **Classification according to Regulation (EC) No 1272/2008**

Repr. 1B	H360D	May damage the unborn child.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
This product is an article and is not labelled according to the CLP regulation. The labelling information is included to reflect the classification of the substances contained in this article.

· **Hazard pictograms**

GHS08

· **Signal word** Danger

(Contd. on page 2)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 1)

· **Hazard-determining components of labelling:**
mercury
· **Hazard statements**
H360D May damage the unborn child.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**
P202 Do not handle until all safety precautions have been read and understood.
P273 Avoid release to the environment.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Additional information:**
There are no known hazards from an intact but not operating lamp.
This product is designed to produce high intensity ultraviolet radiation.
Overexposure to the unfiltered light may cause conjunctivitis (eye irritation/inflammation) or eye sight problems, erythrema (sun burn) or skin irriation.
Mechanical destruction may cause harm as a result of the broken quartz glass with sharp edges as well as the release of mercury. Inhalation of mercury vapors due to leakage or breakage of the lamp may be fatal, cause organ damange through prolonged or repeated exposure, or may damage the unborn child.
Touching the operating lamp or immediately after swiching off, may cause burns.
Restricted to professional users.
· **Information concerning particular hazards for human and environment:**
The product does not have to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

*
SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**		
CAS: 7440-33-7 EINECS: 231-143-9	tungsten substance with a Community workplace exposure limit	0.4-3%
CAS: 7439-97-6 EINECS: 231-106-7	mercury Acute Tox. 2, H330; Repr. 1B, H360D; STOT RE 1, H372; Aquatic Acute 1, H400; Aquatic Chronic 1, H410	0.1-0.5%
CAS: 1314-20-1 EINECS: 215-225-1	thorium dioxide Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; Carc. 1B, H350	0.005-0.1%

· **Additional information:**
For the wording of the listed hazard phrases refer to section 16.
Dangerous components listed above are part of the assembly whitin the final product. None of these are exposed or present a hazard if the product is used and handled properly.
Thorium compounds are low level radioactive materials which may give rise to both small external radiation hazard and an internal hazard from ingestion or inhalation.
The lamp contains thoriated tungsten (2-3% thorium dioxide in tungsten). Radiation from art no

(Contd. on page 3)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 2)

582034 80 is 68 Bq, and from art no 9007810 80 101 Bq

*
SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Symptoms of overexposure of UV-light to skin and eyes usually disappear in 48 hours.
Burns caused by overexposure to radiation or severe injuries caused by broken glass shold be treated by a medical practitioner.
· **After inhalation:**
Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Generally the product does not irritate the skin.
· **After eye contact:**
Rinse opened eye for several minutes under running water and consult a doctor.
· **After swallowing:**
If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.
· **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
· **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 extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Not applicable.
· **5.2 Special hazards arising from the substance or mixture**
No further relevant information available.
· **5.3 Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

*
SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Do not breathe vapour.
Avoid contact with spilled material.
Ensure adequate ventilation
Remove persons from danger area.
· **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
Send for recovery or disposal in suitable receptacles.
· **6.3 Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.

(Contd. on page 4)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 3)

Pick up mechanically.
Beads of mercury can be picked up/collected with a special mercury tong, syringe, packing tape or thin paper, or bound by zinc powder or a special mercury absorber. Keep the collected mercury in an air-tight non-metallic container (plastic, glass).
Dispose of the material collected according to regulations.
Ensure adequate ventilation.

· **6.4 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.

*
SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Handle and open container with care.
Before use clean the lamp with a cloth moistened with alcohol.
Avoid touching the quartz tube with bare hands. This will cause finger prints which will scorch the glass when lamp is in use. Use cotton gloves.
See Section 8 for information on personal protection equipment.
· **Information about fire - and explosion protection:** No special measures required.

· **7.2 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 container tightly sealed.
· **7.3 Specific end use(s)** Professional use only.

*
SECTION 8: Exposure controls/personal protection

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

· **8.1 Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
CAS: 7440-33-7 tungsten	
WEL	Short-term value: 10 mg/m³ Long-term value: 5 mg/m³ as W
CAS: 7439-97-6 mercury	
WEL	Long-term value: 0.02 mg/m³ as Hg

· **Ingredients with biological limit values:**		
CAS: 7439-97-6 mercury		
BMGV	20 µmol/mol creatinine Medium: urine Sampling time: random Parameter: mercury	

(Contd. on page 5)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 4)

CAS: 7439-97-6 mercury	
BMGV	20 µmol/mol creatinine Medium: urine Sampling time: random Parameter: mercury

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

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Protect skin and eyes from unfiltered direct or indirect UV-radiation.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Use only in well-ventilated areas.
In case of insufficient ventilation, wear suitable respiratory equipment.
· **Respiratory protection:**
If mercury is released:
Use suitable respiratory protective device in case of insufficient ventilation.
Filter Hg-P3
· **Protection of hands:**
If glass is broken use cut resistant gloves.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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.
· **Eye protection:** Wear eye protection if exposure to UV-radiation is possible.

*
SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solid
Colour:	Not determined.
· **Odour:**	Odourless
· **Odour threshold:**	Not determined.
· **pH-value:**	Not applicable.
· **Change in condition**	
Melting point/freezing point:	(quartz glass) approx. 2000 °C
Initial boiling point and boiling range:	Not applicable.

(Contd. on page 6)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 5)

· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Not determined.
· **Decomposition temperature:**	Not determined.
· **Auto-ignition temperature:**	Product is not selfigniting.
· **Explosive properties:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapour pressure:**	Not applicable.
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with water:**	Insoluble.
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Solvent content:**	
Organic solvents:	0.0 %
· **9.2 Other information**	No further relevant information available.

SECTION 10: Stability and reactivity

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

*

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.
· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

(Contd. on page 7)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 6)

· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **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**
May damage the unborn child.
· **STOT-single exposure** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

*
SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** No further relevant information available.
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Harmful to aquatic organisms
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

*
SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Do not break the lamp, even at the end of life. Put it in an airtight container or sealed plastic sleeve and pack it in the original carton/box to avoid damage. Mark the box that it contains mercury.
Dispose of waste in an approved waste disposal facility.

· **Uncleaned packaging:**
· **Recommendation:**
Non contaminated packagings may be recycled.
Disposal must be made according to official regulations.

*
SECTION 14: Transport information

· **14.1 UN-Number**
· **ADR, IMDG, IATA** UN3506

(Contd. on page 8)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 7)

· **14.2 UN proper shipping name**	
· **ADR**	3506 MERCURY CONTAINED IN MANUFACTURED ARTICLES
· **IMDG, IATA**	MERCURY CONTAINED IN MANUFACTURED ARTICLES
· **14.3 Transport hazard class(es)**	
· **ADR**	
	
· **Class**	8 Corrosive substances. Special provision 366: Articles containing less than 1kg mercury are not subject to ADR regulation.
· **Label**	8 +6.1
· **IMDG**	
	
· **Class**	8 Corrosive substances. Special provision 366: Manufactured instruments and articles containing not more than 1kg of mercury are not subject to the provisions of this Code
· **Label**	8/6.1
· **IATA**	
	
· **Class**	8 Corrosive substances. The lamp contains less than 1g dangerous goods and is not subject to this regulation provided that the maximum package quantity is less than 60 lamps per consignment for art nr. 9007810 80 and less than 189 lamps per consignment for art. nr. 582034 80 (IATA Dangerous goods regulation Chap. 1.2.11).
· **Label**	8 (6.1)
· **14.4 Packing group**	
· **ADR, IMDG, IATA**	Void
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Corrosive substances.
· **EMS Number:**	F-A,S-B
· **Stowage Category**	B

(Contd. on page 9)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 8)

· **Stowage Code**	SW2 Clear of living quarters.
· **Segregation Code**	SG24 Stow "away from" azides
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5kg
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **Transport category**	3
· **Tunnel restriction code**	E
· **IMDG**	
· **Limited quantities (LQ)**	5
· **Excepted quantities (EQ)**	Code: E0 Not permitted as Excepted Quantity
· **UN "Model Regulation":**	UN 3506 MERCURY CONTAINED IN MANUFACTURED ARTICLES, 8 (6.1)

*
SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
EU Regulation (EC) no.1907/2006 (REACH)

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 18a

· **Regulation (EU) No 649/2012**

CAS: 7439-97-6	mercury	Annex I Part 1 Annex I Part 3 Annex V Part 2

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

*
SECTION 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.
LIMITATION OF LIABILITY
This document is only intended to be used as guidance as regards the risks of which we are aware that are associated with the product. Every individual who works with the product or in close proximity of it must receive suitable training. Individuals who come into contact with the product must be capable of using their own judgement as regards conditions or methods for handling, storing and using the product. Alfa Laval is not liable for demands, losses or damage of any kind that arise from flaws or deficiencies in this document or from using, handling, storing or disposing of the product unless it can be proven that Alfa Laval has acted in a grossly negligent manner. Beyond what has been agreed upon and specified in writing with Alfa Laval in the individual case, Alfa Laval makes no promises or assumes any liability, including but not limited to implicit guarantees regarding marketability or appropriateness in terms of both the information provided in

(Contd. on page 10)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 9)

this document and the product to which the information refers.
Please contact your local Alfa Laval Sales Company for further questions:
www.alfalaval.com

· **Relevant phrases**
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H350 May cause cancer.
H360D May damage the unborn child.
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.

· **Department issuing SDS:** Alfa Laval Corporate Standards & Regulatory Operations
· **Contact:**
Argentina: alfa.consulta@alfalaval.com
Australia: australia.info@alfalaval.com
Austria: info.mideurope@alfalaval.com
Belgium: benelux.info@alfalaval.com
Bolivia: alfa.consulta@alfalaval.com
Brazil: alfalaval.br@alfalaval.com
Bulgaria: bulgaria.info@alfalaval.com
Canada: alfacan.info@alfalaval.com
Chile: chile.informacion@alfalaval.com
China: china.info@alfalaval.com
Colombia: info.colombia@alfalaval.com
Croatia: hrvatska.info@alfalaval.com
Czech Republic: czechrepublic.info@alfalaval.com
Denmark: info.nordic.dk@alfalaval.com
Egypt: alme.marketing@alfalaval.com
Estonia: estonia.info@alfalaval.com
Finland: info.fi@alfalaval.com
France: environnement@alfalaval.com
Germany: info.mideurope@alfalaval.com
Greece: greece.info@alfalaval.com
Hungary: info.hu@alfalaval.com
India: india.info@alfalaval.com
Indonesia: alfalindo@alfalaval.com
Israel: israel.info@alfalaval.com
Italy: alfalaval.italia@alfalaval.com
Latvia: latvia.info@alfalaval.com
Lithuania: lithuania.info@alfalaval.com
Malaysia: malaysia.info@alfalaval.com
Mexico: mexico.info@alfalaval.com
The Netherlands: benelux.info@alfalaval.com
New Zealand: newzealand.info@alfalaval.com
Norway: info.no@alfalaval.com
Peru: ventas.peru@alfalaval.com
Philippines: philippines.info@alfalaval.com
Poland: poland.info@alfalaval.com
Portugal: portugal.info@alfalaval.com
Qatar: alme.marketing@alfalaval.com
Romania: romania.info@alfalaval.com

(Contd. on page 11)

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

Printing date 20.11.2018 Version number 4 Revision: 20.11.2018

Trade name: UV-lamp

(Contd. of page 10)

Russia: moscow.response@alfalaval.com
Singapore: al.singapore@alfalaval.com
Slovak Republic: slovakia.info@alfalaval.com
Slovenia: slovenija.info@alfalaval.com
South Africa: info.sa@alfalaval.com
Spain: info.spain@alfalaval.com
Sweden: info.se@alfalaval.com
Switzerland: info.mideurope@alfalaval.com
Taiwan: taiwan.info@alfalaval.com
Thailand: thailand.info@alfalaval.com
Turkey: turkey@alfalaval.com
Ukraine: ukraine.info@alfalaval.com
United Arab Emirates: alme.marketing@alfalaval.com
United Kingdom: general.uk@alfalaval.com
United States: customerservice.usa@alfalaval.com
Venezuela: venezuela.info@alfalaval.com
Vietnam: vietnam.info@alfalaval.com

· **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 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)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 2: Acute toxicity – Category 2
Carc. 1B: Carcinogenicity – Category 1B
Repr. 1B: Reproductive toxicity – Category 1B
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
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 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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