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

Printing date 01/14/2022 Reviewed on 01/14/2022

## 1 Identification

· **Product identifier**

· **Trade name: SU-8 2000 Series Resists**

· **Product number:**
Y111004, Y111007, Y111014, Y111022, Y111029, Y111045, Y111053, Y111058, Y111064, Y111069, Y111070, Y111072, Y111074, Y111075

· **Application of the substance / the mixture** Photoresist

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Kayaku Advanced Materials, Inc.
200 Flanders Road
Westborough, MA 01581
Tel: (617) 965-5511
Fax: (617) 965-5818

· **Information department:**
Product Safety
Email: productsafety@kayakuAM.com
· **Emergency telephone number:**
Kayaku Advanced Materials : 617-965-5511
Chemtrec USA Emergency : 800-424-9300
Chemtrec International Emergency : 703-527-3887

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.

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.
Skin Sens. 1 H317 May cause an allergic skin reaction.

Aquatic Acute 2 H401 Toxic to aquatic life.

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

(Contd. on page 2)

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

*Printing date 01/14/2022* *Reviewed on 01/14/2022*

**Trade name: SU-8 2000 Series Resists**

*(Contd. of page 1)*

· **Hazard pictograms**

GHS02 GHS07 GHS09

· **Signal word** *Warning*

· **Hazard-determining components of labeling:**
*Epoxy resin*
*Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)*
*Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)*
· **Hazard statements**
*H226 Flammable liquid and vapor.*
*H315 Causes skin irritation.*
*H319 Causes serious eye irritation.*
*H317 May cause an allergic skin reaction.*
*H401 Toxic to aquatic life.*
*H411 Toxic to aquatic life with long lasting effects.*
· **Precautionary statements**

| | |
|---|---|
| *P210* | *Keep away from heat/sparks/open flames/hot surfaces. - No smoking.* |
| *P261* | *Avoid breathing dust/fume/gas/mist/vapors/spray* |
| *P273* | *Avoid release to the environment.* |
| *P280* | *Wear protective gloves/protective clothing/eye protection/face protection.* |
| *P301+P310* | *If swallowed: Immediately call a poison center/doctor.* |
| *P302+P352* | *If on skin: Wash with plenty of soap and water.* |
| *P304+P341* | *If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing.* |
| *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.* |
| *P337+P313* | *If eye irritation persists: Get medical advice/attention.* |
| *P370+P378* | *In case of fire: Use to extinguish: Alcohol resistant foam, Fire-extinguishing powder, Carbon dioxide.* |
| *P403+P235* | *Store in a well-ventilated place. Keep cool.* |
| *P501* | *Dispose of contents/container in accordance with local/regional/national/international regulations.* |

· **Classification system:**
· **NFPA ratings (scale 0 - 4)**


*Health = 2*
*Fire = 3*
*Reactivity = 0*

· **HMIS-ratings (scale 0 - 4)**


*Health = 2*
*Fire = 3*
*Reactivity = 0*

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** *Not applicable.*

*(Contd. on page 3)*

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



**Trade name: SU-8 2000 Series Resists**

(Contd. of page 2)

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**

| | | |
|---|---|---|
| | Epoxy resin<br>Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317 | 3-75% |
| 120-92-3 | Cyclopentanone<br>Flam. Liq. 3, H226; Skin Irrit. 2, H315; Eye Irrit. 2A, H319 | 15-96% |
| 108-32-7 | Propylene carbonate<br>Skin Irrit. 2, H315; Eye Irrit. 2A, H319 | 0.1-5% |
| 89452-37-9 | Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)<br>Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317 | 0.05-2.5% |
| 71449-78-0 | Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)<br>Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317 | 0.05-2.5% |

## 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 wash with water and soap and rinse thoroughly.
· **After eye contact:**
Wash eyes immediately with a large amount of water or normal saline, occasionally lifting upper and lower eye lids until no evidence of chemical remains (about 20 minutes). Remove contact lenses if present and easy to remove. Seek immediate medical attention.
· **After swallowing:**
Do not induce vomiting unless instructed to do so by a physician. Wash out mouth with water and keep person at rest. Seek immediate medical attention.
· **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** Treat symptomatically.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
Alcohol resistant foam
Fire-extinguishing powder
Carbon dioxide
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture** No further relevant information available.

(Contd. on page 4)

(Contd. of page 3)

· **Advice for firefighters**
· **Protective equipment:** Wear SCBA.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
· **Environmental precautions:**
Do not allow product to reach sewage system or any drains.
Inform respective authorities in case of seepage into water course or sewage system.
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).
Dispose contaminated material as waste according to Section 13.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents
· **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.
· **Protective Action Criteria for Chemicals**

| · **PAC-1:** | | |
|---|---|---|
| 120-92-3 | Cyclopentanone | 0.87 ppm |
| 108-32-7 | Propylene carbonate | 34 mg/m³ |

| · **PAC-2:** | | |
|---|---|---|
| 120-92-3 | Cyclopentanone | 9.5 ppm |
| 108-32-7 | Propylene carbonate | 370 mg/m³ |

| · **PAC-3:** | | |
|---|---|---|
| 120-92-3 | Cyclopentanone | 57 ppm |
| 108-32-7 | Propylene carbonate | 2,200 mg/m³ |

## 7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaust at the workplace.
Prevent formation of aerosols.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Use explosion-proof apparatus / fittings and spark-proof tools.
Protect against electrostatic charges.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and containers:**
Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.

(Contd. on page 5)

(Contd. of page 4)

*Store in a cool location.*
· **Information about storage in one common storage facility:**
*Do not store together with alkalis (caustic solutions).*
*Do not store together with oxidizing and acidic materials.*
· **Further information about storage conditions:**
*Keep container well-sealed in cool, dry location.*
*Protect from heat and direct sunlight.*
*Store receptacle in a well ventilated area.*
· **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:** | |
|---|---|
| **89452-37-9 Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)** | |
| *ACGIH TLV TWA* | *Long-term value: 0.5 mg/m³* |
| *NIOSH IDLH* | *Long-term value: 50 mg/m³* |
| *OSHA PEL* | *Long-term value: 0.5 mg/m³* |
| **71449-78-0 Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)** | |
| | *ACGIH TLV TWA: Long-term value: 0.5 mg/m³* |
| *NIOSH IDLH* | *Long-term value: 50 mg/m³* |
| *OSHA PEL* | *Long-term value: 0.5 mg/m³* |

· **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 food and beverages.*
*Immediately remove all soiled and contaminated clothing.*
*Wash hands before breaks and at the end of work.*
*Avoid contact with the eyes and skin.*
· **Respiratory equipment:**
*In case of low exposure, use cartridge respirator. In case of intensive or longer exposure, use SCBA.*
· **Protection of hands:**

*Protective gloves*

*The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.*
· **Material of gloves** *Nitrile rubber, NBR*
· **Penetration time of glove material** *Contact glove manufacture for break-through time.*

(Contd. on page 6)

(Contd. of page 5)

· **Eye protection:**

*Tightly sealed goggles*

## 9 Physical and chemical properties

| | |
|---|---|
| · **Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Appearance:** | |
| **Form:** | *Liquid* |
| **Color:** | *Clear to light yellow* |
| · **Odor:** | *Sweet* |
| · **Odor threshold:** | *Not determined.* |
| · **pH-value:** | *Not determined.* |
| · **Change in condition** | |
| **Melting point/Melting range:** | *Undetermined.* |
| **Boiling point/Boiling range:** | *130 °C (266 °F)* |
| · **Flash point:** | *30 °C (86 °F)* |
| · **Flammability (solid, gaseous):** | *Not applicable.* |
| · **Ignition temperature:** | *430 °C (806 °F)* |
| · **Decomposition temperature:** | *Not determined.* |
| · **Auto igniting:** | *Product is not selfigniting.* |
| · **Danger of explosion:** | *Product is not explosive. However, formation of explosive air/vapor mixtures are possible.* |
| · **Explosion limits:** | |
| **Lower:** | *Not determined.* |
| **Upper:** | *Not determined.* |
| · **Vapor pressure:** | *Not determined.* |
| · **Density:** | *See Table 1 Other Information below* |
| · **Relative density** | *Not determined.* |
| · **Vapor density** | *Not determined.* |
| · **Evaporation rate** | *1.6-2.3 (BuAc=1)* |
| · **Solubility in / Miscibility with** | |
| **Water:** | *Water miscible No* |
| · **Partition coefficient (n-octanol/water):** | *Not determined.* |
| · **Viscosity:** | |
| **Dynamic:** | *Not determined.* |

(Contd. on page 7)

(Contd. of page 6)

| | |
|---|---|
| **Kinematic:** | Not determined. |
| · **Other information** | Table 1. Product specific gravity and VOC data. |

| Name | Sp. Grav. | Vol.(%by wt.) | VOC (g/L) |
|---|---|---|---|
| SU-8 2000.1 | 1.00 | 94-98 | 960 |
| SU-8 2000.2 | 1.00 | 90-95 | 930 |
| SU-8 2000.5 | 1.07 | 85-90 | 920 |
| SU-8 2001 | 1.100 | 80-85 | 860 |
| SU-8 2002 | 1.123 | 70-75 | 800 |
| SU-8 2005 | 1.164 | 50-55 | 640 |
| SU-8 2007 | 1.175 | 45-50 | 550 |
| SU-8 2010 | 1.187 | 40-45 | 500 |
| SU-8 2015 | 1.200 | 35-40 | 430 |
| SU-8 2025 | 1.219 | 30-35 | 380 |
| SU-8 2035 | 1.227 | 20-30 | 370 |
| SU-8 2050 | 1.233 | 20-30 | 345 |
| SU-8 2075 | 1.236 | 20-30 | 320 |
| SU-8 2100 | 1.237 | 20-30 | 310 |

## 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability** Stable
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** Exothermic polymerization.
· **Conditions to avoid**
Heat, flames and sparks. Extremes of temperature and direct sunlight.
Contact with incompatible materials.
· **Incompatible materials:** Strong Oxidizing Agents, Strong Acids, Strong Bases
· **Hazardous decomposition products:**
Carbon monoxide
Corrosive gases/vapors
Danger of toxic pyrolysis products.
Antimony oxide

## 11 Toxicological information

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

| · **LD/LC50 values that are relevant for classification:** | | |
|---|---|---|
| **Epoxy resin** | | |
| Oral | LD50 | >2000 mg/kg (Rat) |
| Dermal | LD50 | >2000 mg/kg (rabbit) |
| Inhalative | LC50 | >5 mg/L (Rat) |
| **120-92-3 Cyclopentanone** | | |
| Oral | LD50 | 1820 mg/kg (Rat) |

(Contd. on page 8)

(Contd. of page 7)

| | | |
|---|---|---|
| Dermal | LD50 | >2000 mg/kg (rabbit) |
| Inhalative | LC50/4 h | 19.5 mg/l (Rat) |
| **108-32-7 Propylene carbonate** | | |
| Oral | LD50 | >29000 mg/kg (Rat) |
| Dermal | LD50 | >20,000 mg/kg (rabbit) |

· **Primary irritant effect:**
· **on the skin:** Irritant to skin and mucous membranes.
· **on the eye:** Irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:** Irritant

· **Carcinogenic categories**

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

| · **NTP (National Toxicology Program)** |
|---|
| None of the ingredients are listed. |

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

## 12 Ecological information

· **Toxicity**

| · **Aquatic toxicity:** | |
|---|---|
| **Epoxy resin** | |
| 100<LC/EC/IC 50 | ≤1000 mg/l (algae)<br>≤1000 mg/l (fish)<br>≤1000 mg/l (invertebrates) |
| **89452-37-9 Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)** | |
| LC50/24 h | 4.4 mg/l (daphnia) |
| LC50/48 hr | 0.68 mg/L (daphnia) |
| **71449-78-0 Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)** | |
| LC50/24 h | 4.4 mg/l (daphnia) |
| LC50/48 hr | 0.68 mg/L (daphnia) |

· **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.
· **Ecotoxical effects:**
· **Remark:** Toxic for fish
· **Additional ecological information:**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.

(Contd. on page 9)

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



**Trade name: SU-8 2000 Series Resists**

(Contd. of page 8)

· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of as regular garbage/trash. Do not allow product to reach sewage system.
Disposal must be made in accordance with Federal, State, and Local regulations.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made in accordance with Federal, State, and Local regulations.

## 14 Transport information

| | |
|---|---|
| · **UN-Number** | |
| · **DOT, ADR, IMDG, IATA** | UN1866 |
| · **UN proper shipping name** | |
| · **DOT** | Resin solution |
| · **ADR, IATA** | RESIN SOLUTION |
| · **IMDG** | RESIN SOLUTION (Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1), Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)), MARINE POLLUTANT |
| · **Transport hazard class(es)** | |
| · **DOT** |  |
| · **Class** | 3 Flammable liquids |
| · **Label** | 3 |
| · **ADR, IMDG, IATA** |  |
| · **Class** | 3 Flammable liquids |
| · **Label** | 3 |
| · **Packing group** | |
| · **DOT, ADR, IMDG, IATA** | III |
| · **Environmental hazards:** | |
| · **Marine pollutant:** | Yes |
| · **Special precautions for user** | Warning: Flammable liquids |
| · **Hazard identification number (Kemler code):** | 30 |

(Contd. on page 10)

(Contd. of page 9)

| | |
|---|---|
| · **EMS Number:** | F-E,S-D |
| · **Stowage Category** | A |
| · **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: 60 L<br>On cargo aircraft only: 220 L |
| · **ADR** | |
| · **Excepted quantities (EQ)** | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · **IMDG** | |
| · **Limited quantities (LQ)** | 5L |
| · **Excepted quantities (EQ)** | Code: E1<br>Maximum net quantity per inner packaging: 30 ml<br>Maximum net quantity per outer packaging: 1000 ml |
| · **UN "Model Regulation":** | UN 1866 RESIN SOLUTION, 3, III |

## 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 are listed.

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

| | |
|---|---|
| 71449-78-0 | Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1) |
| 89452-37-9 | Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2) |

· **TSCA (Toxic Substances Control Act):** All ingredients are listed or comply with TSCA regulations.

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

· **Proposition 65**

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

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

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

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

(Contd. on page 11)

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

*Printing date 01/14/2022* *Reviewed on 01/14/2022*

**Trade name: SU-8 2000 Series Resists**

(Contd. of page 10)

· **Carcinogenic categories**

| · **EPA (Environmental Protection Agency)** |
|---|
| None of the ingredients are listed. |

| · **TLV (Threshold Limit Value)** |
|---|
| None of the ingredients are listed. |

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

| · **Massachusetts State Right To Know List** | |
|---|---|
| 120-92-3 | Cyclopentanone |

| · **New Jersey State Right To Know List** | |
|---|---|
| 120-92-3 | Cyclopentanone |

| · **Pennsylvania Hazardous Substances List** | |
|---|---|
| 120-92-3 | Cyclopentanone |

· **California SCAQMD Rule 443.1 VOC's:** See Table 1 - Section 9
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS09

· **Signal word** Warning

· **Hazard-determining components of labeling:**
Epoxy resin
Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)
Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)
· **Hazard statements**
H226 Flammable liquid and vapor.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H401 Toxic to aquatic life.
H411 Toxic to aquatic life with long lasting effects.
· **Precautionary statements**

| | |
|---|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301+P310 | If swallowed: Immediately call a poison center/doctor. |
| P302+P352 | If on skin: Wash with plenty of soap and water. |
| P304+P341 | If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. |
| 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. |

(Contd. on page 12)

(Contd. of page 11)

| | |
|---|---|
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P370+P378 | In case of fire: Use to extinguish: Alcohol resistant foam, Fire-extinguishing powder, Carbon dioxide. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P501 | 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:** Product safety department
· **Contact:** Tom Cole, EHS Manager (tcole@kayakuAM.com)

· **Revision History:**
The business address of the manufacturer in Section 1 was updated. The hazard classification and precautionary statements for the mixture in Section 2 were revised. The toxicology data in Sections 11 and 12 were revised.
· **Date of preparation / last revision** 01/14/2022 / 7
· **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organisation
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
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
Flam. Liq. 3: Flammable liquids – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
Skin Sens. 1: Skin sensitisation – Category 1
Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
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