

Printing date 10/07/2020

1 Identification

· Product identifier

- Trade name: <u>eTECTX Series Resists</u>
- **Product number:** CRP1002
- · Application of the substance / the mixture Photoresist
- \cdot 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	2 Flame
Flam. Liq. 3	H226 Flammable liquid and vapor.
GHS08	B Health hazard
STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure.
\checkmark	Denvironment 2 H411 Toxic to aquatic life with long lasting effects.
GHS07	7
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 eleme	nts The product is classified and labeled according to the Globally Harmonized System (GHS). (Contd. on page 2) US-

Reviewed on 10/07/2020



Printing date 10/07/2020

Trade name: eTECTX Series Resists

Reviewed on 10/07/2020

Hazard pictogra	(Contd. of page
she 1	
GHS02 GHS	507 GHS08 GHS09
Signal word Wa	
	ning components of labeling:
Proprietary Epo	
Proprietary epo	
	di-4, 1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)
	enyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)
Cyclopentanone Hazard stateme	
	ns le liquid and vapor.
H315 Causes sk	
	rious eye irritation.
	e an allergic skin reaction.
	e damage to organs through prolonged or repeated exposure.
H401 Toxic to a	
	quatic life with long lasting effects.
Precautionary s	
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.
P260	Do not breathe 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+P3	338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if prese
	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 for extinction: Alcohol resistant foam.
P370+P378	In case of fire: Use for extinction: Fire-extinguishing powder.
P370+P378	In case of fire: Use for extinction: Carbon dioxide.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/regional/national/internation regulations.
Classification sy	0
NFPA ratings (
н	ealth = 2
	ire = 3
	eactivity = 0
▼ ✓ HMIS-ratings (-
	Health = *2
	Fire = 3
REACTIVITY 0	Reactivity = 0
	(Contd. on page

- US



Printing date 10/07/2020

Trade name: eTECTX Series Resists

Reviewed on 10/07/2020

(Contd. of page 2)

• Other hazards

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

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture: consisting of the following components.

	Proprietary Epoxy Resin	25-50%
	STOT RE 2, H373; O Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; Aquatic Chronic 4, H413	
	Proprietary epoxy resin M1	25-50%
120-92-3	Cyclopentanone Flam. Liq. 3, H226; Skin Irrit. 2, H315; Eye Irrit. 2A, H319	10-40%
108-32-7	Propylene carbonate Skin Irrit. 2, H315; Eye Irrit. 2A, H319	1-5%
89452-37-9	Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1: 2) Quantic Acute 1, H400; Aquatic Chronic 1, H410; QUARIN Sens. 1, H317	1-5%
71449-78-0	Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1) \bigcirc Aquatic Acute 1, H400; Aquatic Chronic 1, H410; \diamondsuit Skin Sens. 1, H317	1-5%
Additional (Components:	
Pre	oprietary Resin Modifier	5-10%
	hesion Promoter Eye Dam. 1, H318	- <1%
	mma-Butyrolactone Eye Dam. 1, H318; 🐠 Acute Tox. 4, H302; STOT SE 3, H336	- <1%

4 First-aid measures

· Description of first aid measures

· General information: Immediately remove any clothing soiled by the product.

• After inhalation:

Inhalation is not an expected route of exposure. If respiratory irritation or distress occurs remove victim to fresh air. Seek medical attention if respiratory irritation or distress continues.

· 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.

(Contd. on page 4)

⁻US

(Contd. of page 3)



Safety Data Sheet acc. to OSHA HCS

Printing date 10/07/2020

Trade name: eTECTX Series Resists

Reviewed on 10/07/2020

- 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 Water
- Special hazards arising from the substance or mixture Containers may explode due to pressure increase when container is exposed to extreme heat. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.
- · 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. Keep away from ignition sources Ensure adequate ventilation · 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). 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.

7 Handling and storage

· Handling:

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

(Contd. on page 5)

US -



Printing date 10/07/2020

Trade name: eTECTX Series Resists

(Contd. of page 4)

Reviewed on 10/07/2020

Use explosion-proof apparatus / fittings and spark-proof tools.

- Conditions for safe storage, including any incompatibilities • Storage:
- **Requirements to be met by storerooms and containers:** Store in a cool location. Due to photo-sensitivity, store product in brown-glass or stainless steel receptacles.
- Information about storage in one common storage facility: Do not store together with oxidizing and acidic materials. Do not store together with alkalis (caustic solutions).
- *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.

- Duonuistami on ouu	limit values that require monitoring at the workplace:
Proprietary epoxy	
ACGIH TLV TWA	Short-term value: 10 mg/m ³
OSHA PEL TWA	Short-term value: 5 mg/m ³
	Inhalable particulate
89452-37-9 Sulfor	nium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)
ACGIH TLV TWA	Long-term value: 0.5 mg/m ³
NIOSH IDLH	Long-term value: 50 mg/m ³
OSHA PEL	Long-term value: 0.5 mg/m ³
71449-78-0 Sulfor	nium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)
	ACGIH TLV TWA: Long-term value: 0.5 mg/m ³
NIOSH IDLH	Long-term value: 50 mg/m ³
OSHA PEL	Long-term value: 0.5 mg/m ³

- 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.

(Contd. on page 6)

⁻US -



Printing date 10/07/2020

Trade name: eTECTX Series Resists

(Contd. of page 5)

Reviewed on 10/07/2020

· 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.
- Eye protection:

Tightly sealed goggles

Information on basic physical and	chemical properties
General Information Appearance:	
Appeurance: 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:	Not determined.
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.



Printing date 10/07/2020

Reviewed on 10/07/2020

Trade name: eTECTX Series Resists

Solubility in / Miscibility with		
Water:	Water miscible No	
Partition coefficient (n-octan	ol/water): Not determined.	
· Viscosity:		
Dynamic:	Not determined.	
Kinematic:	Not determined.	
• Other information	No further relevant information available.	

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 and carbon dioxide Danger of toxic pyrolysis products. Corrosive gases/vapors Antimony oxide

11 Toxicological information

· Information on toxicological effects

• Acute toxicity:

Proprietar	y epoxy resin M1		
Oral	LD50	>2000 mg/kg (Rat)	
Dermal	LD50	>2000 mg/kg (Rat)	
Adhesion .	Promoter		
Oral	LD50	8030 mg/kg (Rat)	
Dermal	LD50	4248 mg/kg (Rat)	
Inhalative	LC50/4 h	> 5.3 mg/l (Rat)	
Proprietar	y Epoxy Resin		
Oral	NOEL 28 day repeated dose	250 mg/kg/day (Rat)	
120-92-3 (Cyclopentanone		
Oral	LD50	1820 mg/kg (Rat)	
Dermal	LD50	>2000 mg/kg (rabbit)	
Inhalative	LC50/4 h	19.5 mg/l (Rat)	



Printing date 10/07/2020

Reviewed on 10/07/2020

Trade name: eTECTX Series Resists

			(Contd. of page 7)
Proprieta	ry epoxy resin M1		
Oral	LD50	>2000 mg/kg (Rat)	
Dermal	LD50	>2000 mg/kg (Rat)	
108-32-7	Propylene carbona	te	
Oral	LD50	>29000 mg/kg (Rat)	
Dermal	LD50	>29000 mg/kg (Rat) >20,000 mg/kg (rabbit)	

Specific symptoms in biological assay:

Mixture of triarylsulfonium/hexafluoroantimonate salts (CAS 71449-78-0 and 89452-37-9) in propylene carbonate (CAS 108-32-7):

This material was mutagenic in the Ames bacterial assay. It is inactive, however, in the in vivo mouse micronucleus test.

Propylene carbonate (CAS 108-32-7):

This substance had a negative Ames test with or without metabolic activation.

[3-(2,3-epoxypropoxy)propyl]trimethoxysilane (CAS 2530-83-8):

This material was weakly mutagenic in the Ames test, mouse lymphoma assay, and an in vitro sister chromatid exchange test; however results of in vivo genotoxicity studies have shown mixed results. Repeated exposure of rats or rabbits to this material did not result in an increase in sister chromatid exchange, while single exposures of mice to a hydrosylate of this materials resulted in a significant increase in micronucleated polychromatic erythrocytes. The potential releavance to humans is unknown; however, it is ulikely that this material presents a significant genotoxic hazard, in that it lacks any local tumorigneic response the the chronic recurrent application to mouse skin.

Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(1-methylethylidene)bis[phenol] CAS 28906-96-9:

This material was mutagenic in the Ames bacterial assay and showed a positive result in a mammalian cell chromosomal aberration test.

· Primary irritant effect:

• on the skin: Irritant to skin and mucous membranes.

• on the eye: Irritating effect.

· Sensitization: Sensitization possible through skin contact.

• Experience with humans: No further relevant information available.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: 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:

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)

(Contd. on page 9)

US –



Printing date 10/07/2020

Trade name: eTECTX Series Resists

Reviewed on 10/07/2020

1 C 50/19 hm	(Contd. of pag
	Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)
	4.4 mg/l (daphnia)
	0.68 mg/L (daphnia)
Adhesion P	
	30 mg/l (daphnia magna)
	255 mg/l (Desmodesmus subscipatus (green algae))
	55 mg/l (Cyprinus carpio (common carp))
120-92-3 С	yclopentanone
EC50/48 h	3600 mg/l (Ceriodaphnia dubia (water flea))
	100 mg/l (daphnia magna)
EC50/72 h	>100 mg/l (scenedesmus subspicatus)
LC50/48 hr	2950 mg/L (golden orfe)
LC50/96 h	>100 mg/l (fish)
Proprietary	Epoxy Resin
LC50/96 h	>0.31 mg/l (algae)
	>0.31 mg/l (Water flea)
NOEC/96 h	$\geq 0.99 \text{ mg/l} (algae)$
108-32-7 Pi	ropylene carbonate
EC50/17 h	>10000 mg/l (Pseudomonas putida)
EC50/48 h	>500 mg/l (daphnia magna)
EC50/72 h	>500 mg/l (scenedesmus subspicatus)
LC50/96 h	2200 mg/l (Leuciscus idus)
Persistence	and degradability No further relevant information available.
	environmental systems:
	<i>lative potential</i> No further relevant information available.
Ecotoxical	soil No further relevant information available.
Remark: To	
Additional of	ecological information:
General no	
	w undiluted product or large quantities of it to reach ground water, water course or sewage system.
	ous for fish and plankton in water bodies. Juatic organisms
	PBT and vPvB assessment
PBT: Not a	
vPvB: Not d	applicable.
Other adver	rse effects No further relevant information available.

· 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.

(Contd. on page 10)



Reviewed on 10/07/2020

Printing date 10/07/2020

Trade name: eTECTX Series Resists

(Contd. of page 9)

· Uncleaned packagings:

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

UN-Number	
DOT, ADR, IMDG, IATA	UN1866
UN proper shipping name	
DOT, ADR	Resin solution
IMDG	RESIN SOLUTION (Sulfonium, (thiodi-4,1-phenylen bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2 Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)
IATA	hexafluoroantimonate(1-) (1:1)), MARINE POLLUTANT RESIN SOLUTION
	KESHN SOLOTION
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	111
Environmental hazards:	Product contains environmentally hazardous substance Formaldehyde, polymer with (chloromethyl)oxirane and 4,4'-(methylethylidene)bis[phenol]
Marine pollutant:	Yes
Special precautions for user	Warning: Flammable liquids
Hazard identification number (Kemler code).	
EMS Number: Stowage Category	F-E,S-D A
	<u>л</u>
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.



Printing date 10/07/2020

Reviewed on 10/07/2020

Trade name: eTECTX Series Resists

	(Contd. of page 1
• Transport/Additional information:	
· ADR	
\cdot Excepted quantities (EQ)	Code: El
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· IMDG	
Limited quantities (LQ)	5L
Excepted quantities $(\widetilde{E}Q)$	Code: El
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
· UN ''Model Regulation'':	UN1866, Resin solution, 3, III

15 Regulatory information

 \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara

· Section 355 (extremely hazardous substances):

None of the ingredients are listed.

· Section 313 (Specific toxic chemical listings):

89452-37-9 Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)

71449-78-0 Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)

• TSCA (Toxic Substances Control Act):

This product is intended solely for export per 40 CFR §720.30(e) of the Toxic Substances Control Act (TSCA). • *Proposition 65*

· Chemicals known to cause cancer:

WARNING: This product contains less than 0.1% of a chemical known to the State of California to cause cancer. *WARNING:* This product contains less than 1% of a chemical known to the State of California to cause birth defects and other reproductive harm.

71-43-2 benzene

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.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients are listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients are listed.

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

None of the ingredients are listed.

(Contd. on page 12)

⁻ US

(Contd. of page 11)



Safety Data Sheet acc. to OSHA HCS

Printing date 10/07/2020

Reviewed on 10/07/2020

Trade name: eTECTX Series Resists

120-92-3 Cyclopentanone

· Massachusetts State Right To Know List

· 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: No information available. GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms 		
GHS02 GHS07 GHS08 GHS09		
· Signal word Warning		
• Hazard-determining components of labeling: Proprietary Epoxy Resin Proprietary epoxy resin M1 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) Cyclopentanone		
 Hazard statements H226 Flammable liquid and vapor. H315 Causes skin irritation. H319 Causes serious eye irritation. H317 May cause an allergic skin reaction. H373 May cause damage to organs through prolonged or repeated exposure. H401 Toxic to aquatic life. 		
H411 Toxic to aquatic life with long lasting effects.		

H411 Toxic to aquatic life with long lasting eff · Precautionary statements

1 recumonary sum	ments
P210	Keep away from heat/sparks/open flames/hot surfaces No smoking.
P260	Do not breathe 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 for extinction: Alcohol resistant foam.
P370+P378	In case of fire: Use for extinction: Fire-extinguishing powder.
P370+P378	In case of fire: Use for extinction: 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.
	(Contd. on page 13)

• US



Printing date 10/07/2020

Reviewed on 10/07/2020

(Contd. of page 12)

Trade name: eTECTX Series Resists

• 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 manufacturer's information in Section 1, the product hazard information in Section 2 and the component hazard information in Section 3 have been updated. • Date of preparation / last revision 10/07/2020 / 1 · 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 DOT: US Department of Transportation IATA: International Air Transport Association ACGIH: American Conference of Governmental Industrial Hygienists 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 STOT RE 2: Specific target organ toxicity (repeated exposure) - Category 2 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 Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard - Category 4