



Material Safety Data Sheet

acc. to ISO/DIS 11014

MERECO

Printing date 04/04/2003

Version 1

Reviewed on 03/21/2003

1 Identification of substance

· Product details

Trade name: Mereco XL-389 FRLV Base**Application of the substance / the preparation**

Epoxy resin

Manufacturer/Supplier:Mereco Division
Metachem Resins Corporation
1505 Main Street
West Warwick, RI 02893
USA

Phone +1 / 401 / 822-9300

Information department:

Technical department.

Emergency information:

Telephone: (401) 822-9300

2 Composition/Data on components

· Chemical characterization

Description:

Mixture of the substances listed below with nonhazardous additions.

Components:

mineral filler	Xi; R 36/37/38
Diglycidyl Ether Bisphenol-A epoxy resin	Xi, N; R 36/38-43-51/53
Polyglycol diepoxide resin	Xi; R 36/38-52
Flame retardant	Xn; R 21-36/37-43
Reactive diluent	Xn; R 20/22-36/37-40-43-68-52/53
additive	Xn, N; R 22-36/38-51-67

Additional information:

For the wording of the listed risk phrases refer to section 16.

This resin is a blended mixture of liquid resins and mineral or ceramic powders. These powders do not pose airborne hazards to the user of this formulated product because they are completely encapsulated in the resin mass. If one of the specific powdered ingredients is hazardous in accordance with Section 313 of the Emergency Planning and Community Right-to-know Act of 1986 it is identified in section 15 of this MSDS (SARA Section 313).

3 Hazards identification

Hazard description:

Xn Harmful

Information pertaining to particular dangers for man and environment:

The product has to be labelled due to the calculation procedure of international guidelines.

R 36/37/38 Irritating to eyes, respiratory system and skin.

R 40 Limited evidence of a carcinogenic effect.

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R 43 May cause sensitisation by skin contact.
 R 68 Possible risk of irreversible effects.
 R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Contains epoxy constituents. See information supplied by the manufacturer.

- **Classification system:** The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.
 - **NFPA ratings (scale 0 - 4)** Health = 2
Fire = 1
Reactivity = 0
 - **HMIS-ratings (scale 0 - 4)** Health = 2
Fire = 1
Reactivity = 0
-

4 First aid measures

- **After inhalation:** Supply fresh air and to be sure call for a doctor.
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. If symptoms persist, consult a doctor.
 - **After swallowing:** If symptoms persist consult doctor.
-

5 Fire fighting measures

- **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
 - **Protective equipment:** No special measures required.
-

6 Accidental release measures

- **Person-related safety precautions:** Not required.
 - **Measures for environmental protection:** Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
 - **Measures for cleaning/collecting:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
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7 Handling and storage

- **Handling:**
 - **Information for safe handling:** Store in cool, dry place in tightly closed receptacles. Use only in well ventilated areas.
 - **Information about protection against explosions and fires:** No special measures required.
- **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.

8 Exposure controls and personal protection

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

· Components with limit values that require monitoring at the workplace:	
reactive diluent (epoxy functional)	
PEL	270 mg/m ³ , 50 ppm
REL	Short-term value: C 30* mg/m ³ , C 5.6* ppm *15-min
TLV	133 mg/m ³ , 25 ppm

PEL	270 mg/m ³ , 50 ppm
REL	Short-term value: C 30* mg/m ³ , C 5.6* ppm *15-min
TLV	133 mg/m ³ , 25 ppm

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

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- **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:** Tightly sealed goggles
-

9 Physical and chemical properties

· General Information	
· Form:	Pasty
· Color:	Gray
· Odor:	Mild
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	201°C (394°F)
· Flash point:	160°C (320°F)
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 20°C (68°F):	2.200 g/cm ³
· Solubility in / Miscibility with	
· Water:	Not miscible or difficult to mix.
· Solvent content:	
· Organic solvents:	0.0 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
 - **Dangerous reactions** Reacts with amines.
 - **Dangerous products of decomposition:** Irritant gases/vapors
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11 Toxicological information

· **Acute toxicity:**

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

reactive diluent (epoxy functional)		
Oral	LD50	2050 mg/kg (rat)
Dermal	LD50	2520 mg/kg (rabbit)
1309-64-4 antimony trioxide		
Oral	LD50	>20000 mg/kg (rat)

· **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:**

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

12 Ecological information

· **Ecotoxicological effects:**

· **Remark:**

Harmful to fish

· **General notes:**

Water hazard class 2 (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

13 Disposal considerations

· **Product:**

· **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.

14 Transport information

· **DOT regulations:**

· **Hazard class:**

-
Not Regulated

· **Proper shipping name (technical name):** Not Regulated

· **Land transport ADR/RID (cross-border):**

· **ADR/RID class:**

-
Not Regulated

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· Maritime transport IMDG:	
· IMDG Class:	- Not Regulated
· Marine pollutant:	No
· Air transport ICAO-TI and IATA-DGR:	
· ICAO/IATA Class:	- Not Regulated

15 Regulations

· **Sara**

· Section 355 (extremely hazardous substances):	
None of the ingredients is listed.	

· Section 313 (Specific toxic chemical listings):	
None of the ingredients is listed.	

· Sections 311/312 (Specific hazard chemical listings):	
reactive diluent (epoxy functional)	

· Sections 311/312 Hazard Categorizations:		
reactive diluent (epoxy functional)	A= Acute Health Hazard; F=Fire Hazard	<1%

· TSCA (Toxic Substances Control Act):	
All ingredients are listed.	

· **Proposition 65**

· Chemicals known to cause cancer:		
1309-64-4	antimony trioxide	<1%

· Chemicals known to cause reproductive toxicity:	
None of the ingredients is listed.	

· **Carcinogenity categories**

· EPA (Environmental Protection Agency)	
None of the ingredients is listed.	

· IARC (International Agency for Research on Cancer)			
1309-64-4	antimony trioxide	2B	<1%

· NTP (National Toxicology Program)	
None of the ingredients is listed.	

· TLV (Threshold Limit Value established by ACGIH)			
1344-28-1	aluminum oxide	A4	50-75%

· MAK (German Maximum Workplace Concentration)			
1344-28-1	aluminum oxide	2	50-75%
	reactive diluent (epoxy functional)	3	<1%
1309-64-4	antimony trioxide	A2	<1%

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<ul style="list-style-type: none"> · NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.
<ul style="list-style-type: none"> · OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

- **Product related hazard informations:** The product has been classified and marked in accordance with directives on hazardous materials.
- **Hazard symbols:** Xn Harmful
- **Hazard-determining components of labelling:** Diglycidyl ether Bisphenol-A epoxy resin
Dibromophenyl glycidylether
reactive diluent (epoxy functional)
- **Risk phrases:**
 - 36/37/38 Irritating to eyes, respiratory system and skin.
 - 40 Limited evidence of a carcinogenic effect.
 - 43 May cause sensitisation by skin contact.
 - 68 Possible risk of irreversible effects.
 - 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- **Safety phrases:**
 - 25 Avoid contact with eyes.
 - 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 - 28 After contact with skin, wash immediately with plenty of ... (to be specified by the manufacturer).
 - 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
 - 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
 - 64 If swallowed, rinse mouth with water (only if the person is conscious).
- **Special labeling of certain preparations:** Contains epoxy constituents. See information supplied by the manufacturer.

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.

- **Relevant R-phrases**
 - 20/22 Harmful by inhalation and if swallowed.
 - 21 Harmful in contact with skin.
 - 22 Harmful if swallowed.
 - 36/37 Irritating to eyes and respiratory system.
 - 36/37/38 Irritating to eyes, respiratory system and skin.
 - 36/38 Irritating to eyes and skin.
 - 40 Limited evidence of a carcinogenic effect.
 - 43 May cause sensitisation by skin contact.

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- 51 Toxic to aquatic organisms.
- 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 52 Harmful to aquatic organisms.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 67 Vapours may cause drowsiness and dizziness.
- 68 Possible risk of irreversible effects.

- **Department issuing MSDS:** Technical department.
- **Contact:** Dr. John F. Plummer

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1 Identification of substance

· Product details

· **Trade name:** Mereco XL-389 FRLV Activator

· **Application of the substance / the preparation**

Epoxy curing agent

· **Manufacturer/Supplier:**

Mereco Division
Metachem Resins Corporation
1505 Main Street
West Warwick, RI 02893
USA

Phone +1 / 401 / 822-9300

· **Information department:** Technical department.

· **Emergency information:** Telephone: (800) 424-9300 (Chemtrec)
Call this number in the event of an accident resulting in a spill, leak or fire. Call this number in the event of exposure to the chemicals.

2 Composition/Data on components

· Chemical characterization

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

· Components:	
mineral filler	Xi; R 36/37/38
aliphatic polyamine	C; R 21/22-34-48/20-65
solvent	Xn; R 20/22-36/38
aliphatic amine	C; R 21/22-34-43-52/53
aliphatic amine	C; R 22-34-43-53
additive	C, N; R 22-34-50/53

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

This material is a blend of liquid curing agents and mineral or ceramic powders. The powders do not pose airborne hazards to the user of this formulated product because they are completely encapsulated in the liquid materials. If one of the specific powdered ingredients is hazardous in accordance with Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 it is identified in section 15 of the MSDS (SARA Section 313).

3 Hazards identification

· **Hazard description:** C Corrosive
N Dangerous for the environment

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· Information pertaining to particular dangers for man and environment:

The product has to be labelled due to the calculation procedure of international guidelines.

R 22 Harmful if swallowed.

R 34 Causes burns.

R 43 May cause sensitisation by skin contact.

R 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 65 Harmful: may cause lung damage if swallowed.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· NFPA ratings (scale 0 - 4)

Health = 3

Fire = 0

Reactivity = 0

· HMIS-ratings (scale 0 - 4)

Health = *3

Fire = 0

Reactivity = 0

4 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.

· After inhalation:

Supply fresh air and to be sure call for a doctor.

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:

Immediately call a doctor.

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

5 Fire fighting measures**· Suitable extinguishing agents:**

CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· Protective equipment:

No special measures required.

6 Accidental release measures**· Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

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- **Measures for environmental protection:** Inform respective authorities in case of seepage into water course or sewage system.
- **Measures for cleaning/collecting:** 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.

7 Handling and storage

- **Handling:**
 - **Information for safe handling:** Store in cool, dry place in tightly closed receptacles.
Use only in well ventilated areas.
 - **Information about protection against explosions and fires:** No special measures required.
- **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.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
 - **Additional information:** The lists that were valid during the creation were used as basis.
- **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.
Avoid contact with the eyes and skin.
 - **Breathing equipment:** Not required.
 - **Protection of hands:** Protective gloves

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- **Material of 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
 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:**

Tightly sealed goggles

9 Physical and chemical properties

· General Information	
· Form:	Pasty
· Color:	Gray
· Odor:	Ammonia-like
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	205°C (401°F)
· Flash point:	101°C (214°F)
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 20°C (68°F):	2.100 g/cm ³
· Solubility in / Miscibility with	
· Water:	Not miscible or difficult to mix.
· Solvent content:	
· Organic solvents:	3.8 %

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**

No decomposition if used according to specifications.

- **Dangerous reactions**

Reacts with acids.
 Reacts with strong acids.

- **Dangerous products of decomposition:**

Irritant gases/vapors

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11 Toxicological information**· Acute toxicity:****· LD/LC50 values that are relevant for classification:**

1309-64-4 antimony trioxide		
Oral	LD50	>20000 mg/kg (rat)

· Primary irritant effect:**· on the skin:**

Caustic effect on skin and mucous membranes.

· on the eye:

Strong caustic effect.

· Sensitization:

Sensitization possible through skin contact.

· Additional toxicological information:

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

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information**· Ecotoxicological effects:****· Remark:**

Toxic for fish

· General notes:

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

13 Disposal considerations**· Product:****· 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.

14 Transport information**· DOT regulations:****· Hazard class:**

8

· Identification number:

UN1760

· Packing group:

II

· Proper shipping name (technical name): Corrosive liquid, n.o.s. (polyoxypropylene diamine, 4-nonylphenol, branched)**· Label**

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<ul style="list-style-type: none"> · Land transport ADR/RID (cross-border): · ADR/RID class: 8 Corrosive substances · Item: 66b · Danger code (Kemler): 80 · UN-Number: 1760 · Description of goods: Corrosive liquid, n.o.s. (polyoxypropylene diamine, 4-nonylphenol, branched) 	
<ul style="list-style-type: none"> · Maritime transport IMDG: · IMDG Class: 8 · Page: 8147 · UN Number: 1760 <ul style="list-style-type: none"> · Label 8 · Packaging group: II · EMS Number: 8-15 · MFAG: 760 · Marine pollutant: No · Propper shipping name: Corrosive liquid, n.o.s. (polyoxypropylene diamine, 4-nonylphenol, branched) 	
<ul style="list-style-type: none"> · Air transport ICAO-TI and IATA-DGR: · ICAO/IATA Class: 8 · UN/ID Number: 1760 <ul style="list-style-type: none"> · Label 8 · Packaging group: II · Propper shipping name: Corrosive liquid, n.o.s. (polyoxypropylene diamine, 4-nonylphenol, branched) 	

15 Regulations

- **Sara**

<ul style="list-style-type: none"> · Section 355 (extremely hazardous substances): 			
None of the ingredients is listed.			
<ul style="list-style-type: none"> · Section 313 (Specific toxic chemical listings): 			
None of the ingredients is listed.			
<ul style="list-style-type: none"> · Sections 311/312 (Specific hazard chemical listings): 			
	polyoxypropylene diamine		
2855-13-2	isophorone diamine		
25620-58-0	trimethylhexane-1,6-diamine		
84852-15-3	4-nonylphenol, branched		
<ul style="list-style-type: none"> · Sections 311/312 Hazard Categorizations: 			
	polyoxypropylene diamine	A = Acute health hazard	10-20%
2855-13-2	isophorone diamine	A = Acute (health hazard)	3-10%
25620-58-0	trimethylhexane-1,6-diamine	A = Acute Health Hazard	1-3%
84852-15-3	4-nonylphenol, branched	A = Acute health hazard	1-3%

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· TSCA (Toxic Substances Control Act):		
All ingredients are listed.		
· Proposition 65		
· Chemicals known to cause cancer:		
1309-64-4	antimony trioxide	<1%
· Chemicals known to cause reproductive toxicity:		
None of the ingredients is listed.		
· Carcinogenity categories		
· EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
· IARC (International Agency for Research on Cancer)		
1309-64-4	antimony trioxide	2B <1%
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· TLV (Threshold Limit Value established by ACGIH)		
1344-28-1	aluminum oxide	A4 50-75%
· MAK (German Maximum Workplace Concentration)		
1344-28-1	aluminum oxide	2 50-75%
1309-64-4	antimony trioxide	A2 <1%
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
None of the ingredients is listed.		
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

· Product related hazard informations:

The product has been classified and marked in accordance with directives on hazardous materials.

· Hazard symbols:

C Corrosive
N Dangerous for the environment

· Hazard-determining components of labelling:

polyoxypropylene diamine
isophorone diamine
trimethylhexane-1,6-diamine

· Risk phrases:

22 Harmful if swallowed.
34 Causes burns.
43 May cause sensitisation by skin contact.
48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
65 Harmful: may cause lung damage if swallowed.

· Safety phrases:

20 When using do not eat or drink.

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- | | |
|----------|---|
| 25 | Avoid contact with eyes. |
| 26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. |
| 27/28 | After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water. |
| 36/37/39 | Wear suitable protective clothing, gloves and eye/face protection. |
| 45 | In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |
| 57 | Use appropriate container to avoid environmental contamination. |
| 60 | This material and its container must be disposed of as hazardous waste. |
-

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.

· **Relevant R-phrases**

- | | |
|----------|--|
| 20/22 | Harmful by inhalation and if swallowed. |
| 21/22 | Harmful in contact with skin and if swallowed. |
| 22 | Harmful if swallowed. |
| 34 | Causes burns. |
| 36/37/38 | Irritating to eyes, respiratory system and skin. |
| 36/38 | Irritating to eyes and skin. |
| 43 | May cause sensitisation by skin contact. |
| 48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| 50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 52/53 | Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 53 | May cause long-term adverse effects in the aquatic environment. |
| 65 | Harmful: may cause lung damage if swallowed. |

· **Department issuing MSDS:**

Technical department.

· **Contact:**

Dr. John F. Plummer