



MERECO

Printing date 03/05/2007

Material Safety Data Sheet

acc. to ISO/DIS 11014

Version 2

Page 1/8

Reviewed on 03/05/2007

1 Identification of substance

- **Trade name:** Metrecast XL-197
- **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
	Reactive diluent	Xn, Xi; R 20/22-36/37-40-43-68-52/53
330-54-1	diuron (ISO)	Xn, N; R 22-40-48/22-50/53

- **Additional information:** This material is a blend of liquid resins, liquid curing agents and mineral, ceramic or organic fillers. These fillers do not pose airborne hazards to the user of this formulated product because they are completely encapsulated in the liquid mass. If any of the fillers are hazardous in accordance with Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 they are identified in Section 15 of this MSDS (SARA Section 313).

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

3 Hazards identification

- **Hazard description:** Xn Harmful
N Dangerous for the environment
- **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.

(Contd. on page 2)

USA

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 1)

R 43 May cause sensitisation by skin contact.
 R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R 68 Possible risk of irreversible effects.
 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. For added safety, call a doctor.
In case of unconsciousness place patient in a stable 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:** Mouth respiratory protective device.
 - **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 of contaminated material as waste according to item 13.
Ensure adequate ventilation.
-

— USA —

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 2)

* 7 Handling and storage

· Handling:

· Information for safe handling:

Store in cool, dry place in tightly closed receptacles.
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
 Use only in well ventilated areas.
 This material is a blend of liquid resins and latent curing agents.
 The curing reaction is activated by heat. The material must be stored below 25C (77F) in order to maintain its specified shelf life.
 Containers must be closed when not in use and must be protected from heat.

· Information about protection against explosions and fires:

No special measures required.

· Storage:

· Requirements to be met by storerooms and receptacles:

Material must be stored below 25C (77F) to maintain the specified shelf life.

· Information about storage in one common storage facility:

Not required.

· Further information about storage conditions:

Keep receptacle tightly sealed.
 This material contains a latent curing agent that is activated by heat. This material must be kept cool to prevent the reaction between the resin and the latent curing agent. The rated shelf life will be shortened if the storage temperature exceeds 25C.

· Recommended storage temperature:

0C - 25C (32F - 77F)

* 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:

330-54-1 diuron (ISO)

REL 10 mg/m³

TLV 10 mg/m³

· **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.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 3)

- **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 is based on consideration of the penetration times, rates of diffusion and the degradation of the material.
- **Material of gloves** The selection of suitable gloves depends not only 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 penetration time has to be determined by the glove manufacturer and has to be observed.
- **Eye protection:** Tightly sealed goggles

9 Physical and chemical properties

· General Information	
· Form:	Highly viscous
· Color:	Black
· Odor:	Mild
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	201°C
· Flash point:	254°C
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 20°C:	2.30 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.

(Contd. on page 5)

— USA —

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

- (Contd. from page 4)
- **Dangerous reactions** Reaction between resin and latent curing agent occurs if temperature exceeds 30C (86F). Reaction rate is dependent on actual temperature. Small volumes of material do not generate excessive exotherm heat.
 - **Dangerous products of decomposition:** Irritant gases/vapors
Ammonia
-

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)
330-54-1 diuron (ISO)		
Oral	LD50	2900 mg/kg (rat)
Dermal	LD50	> 2000 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:** The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
-

12 Ecological information

- **Ecotoxicological effects:**
 - **Remark:** Toxic for fish
 - **General notes:** Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
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.
-

13 Disposal considerations

- **Product:**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

— USA —

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 5)

- **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
· 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):		
330-54-1	diuron (ISO)	<1%
· 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	1-3%
· TSCA (Toxic Substances Control Act):		
All ingredients are listed.		
· Proposition 65		
· Chemicals known to cause cancer:		
330-54-1	diuron (ISO)	<1%
1333-86-4	Carbon black	<0,5%
· Chemicals known to cause reproductive toxicity for females:		
None of the ingredients is listed.		

(Contd. on page 7)

— USA —

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 6)

· Chemicals known to cause reproductive toxicity for males:		
None of the ingredients is listed.		
· Chemicals known to cause developmental toxicity:		
None of the ingredients is listed.		
· Carcinogenicity categories		
· EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
· IARC (International Agency for Research on Cancer)		
1333-86-4	Carbon black	2B <0,5%
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· TLV (Threshold Limit Value established by ACGIH)		
1344-28-1	aluminum oxide	A4 >60%
· MAK (German Maximum Workplace Concentration)		
1344-28-1	aluminum oxide	2 >60%
	reactive diluent (epoxy functional)	3 1-3%
1333-86-4	Carbon black	3 <0,5%
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
1333-86-4	Carbon black	<0,5%
· 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
N Dangerous for the environment

· Hazard-determining components of labelling:

Diglycidyl ether Bisphenol-A epoxy resin
reactive diluent (epoxy functional)
diuron (ISO)

· 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.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
68 Possible risk of irreversible effects.

· Safety phrases:

23 Do not breathe gas/fumes/vapour/spray.
25 Avoid contact with eyes.

(Contd. on page 8)

— USA —

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 7)

- 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.
- 57 Use appropriate container to avoid environmental contamination.
- 60 This material and its container must be disposed of as hazardous waste.
- 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.
- 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.
- 48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
- 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 51/53 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.
- 68 Possible risk of irreversible effects.

· **Department issuing MSDS:** Technical department

· **Contact:** Dr. John F. Plummer

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



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- **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
	Reactive diluent	Xn, Xi; R 20/22-36/37-40-43-68-52/53
330-54-1	diuron (ISO)	Xn, N; R 22-40-48/22-50/53

- **Additional information:** This material is a blend of liquid resins, liquid curing agents and mineral, ceramic or organic fillers. These fillers do not pose airborne hazards to the user of this formulated product because they are completely encapsulated in the liquid mass. If any of the fillers are hazardous in accordance with Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 they are identified in Section 15 of this MSDS (SARA Section 313).

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

3 Hazards identification

- **Hazard description:** Xn Harmful
N Dangerous for the environment
- **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.

(Contd. on page 2)

USA

Material Safety Data Sheet

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Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

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R 43 May cause sensitisation by skin contact.
 R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R 68 Possible risk of irreversible effects.
 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. For added safety, call a doctor.
In case of unconsciousness place patient in a stable 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:** Mouth respiratory protective device.
 - **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 of contaminated material as waste according to item 13.
Ensure adequate ventilation.
-

— USA —

(Contd. on page 3)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 2)

* 7 Handling and storage

· Handling:

· Information for safe handling:

Store in cool, dry place in tightly closed receptacles.
 Ensure good ventilation/exhaustion at the workplace.
 Prevent formation of aerosols.
 Use only in well ventilated areas.
 This material is a blend of liquid resins and latent curing agents.
 The curing reaction is activated by heat. The material must be stored below 25C (77F) in order to maintain its specified shelf life.
 Containers must be closed when not in use and must be protected from heat.

· Information about protection against explosions and fires:

No special measures required.

· Storage:

· Requirements to be met by storerooms and receptacles:

Material must be stored below 25C (77F) to maintain the specified shelf life.

· Information about storage in one common storage facility:

Not required.

· Further information about storage conditions:

Keep receptacle tightly sealed.
 This material contains a latent curing agent that is activated by heat. This material must be kept cool to prevent the reaction between the resin and the latent curing agent. The rated shelf life will be shortened if the storage temperature exceeds 25C.

· Recommended storage temperature:

0C - 25C (32F - 77F)

* 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:

330-54-1 diuron (ISO)

REL 10 mg/m³

TLV 10 mg/m³

· **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.

(Contd. on page 4)

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 3)

- **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 is based on consideration of the penetration times, rates of diffusion and the degradation of the material.
- **Material of gloves** The selection of suitable gloves depends not only 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 penetration time has to be determined by the glove manufacturer and has to be observed.
- **Eye protection:** Tightly sealed goggles

9 Physical and chemical properties

· General Information	
· Form:	Highly viscous
· Color:	Black
· Odor:	Mild
· Change in condition	
· Melting point/Melting range:	Undetermined.
· Boiling point/Boiling range:	201°C
· Flash point:	254°C
· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Density at 20°C:	2.30 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.

(Contd. on page 5)

— USA —

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 4)

- **Dangerous reactions** Reaction between resin and latent curing agent occurs if temperature exceeds 30C (86F). Reaction rate is dependent on actual temperature. Small volumes of material do not generate excessive exotherm heat.
 - **Dangerous products of decomposition:** Irritant gases/vapors
Ammonia
-

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)
330-54-1 diuron (ISO)		
Oral	LD50	2900 mg/kg (rat)
Dermal	LD50	> 2000 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:** The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant
-

12 Ecological information

- **Ecotoxicological effects:**
 - **Remark:** Toxic for fish
 - **General notes:** Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
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.
-

13 Disposal considerations

- **Product:**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

— USA —

Material Safety Data Sheet

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Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 5)

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · DOT regulations: · Hazard class: - Not Regulated · Proper shipping name (technical name): Not Regulated
<ul style="list-style-type: none"> · Land transport ADR/RID (cross-border): · ADR/RID class: - Not Regulated
<ul style="list-style-type: none"> · Maritime transport IMDG: · IMDG Class: - Not Regulated · Marine pollutant: No
<ul style="list-style-type: none"> · Air transport ICAO-TI and IATA-DGR: · ICAO/IATA Class: - Not Regulated

* 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): 		
330-54-1	diuron (ISO)	<1%
<ul style="list-style-type: none"> · Sections 311/312 (Specific hazard chemical listings): 		
reactive diluent (epoxy functional)		
<ul style="list-style-type: none"> · Sections 311/312 Hazard Categorizations: 		
reactive diluent (epoxy functional)	A = Acute Health Hazard; F = Fire Hazard	1-3%
<ul style="list-style-type: none"> · TSCA (Toxic Substances Control Act): 		
All ingredients are listed.		
<ul style="list-style-type: none"> · Proposition 65 		
<ul style="list-style-type: none"> · Chemicals known to cause cancer: 		
330-54-1	diuron (ISO)	<1%
1333-86-4	Carbon black	<0,5%
<ul style="list-style-type: none"> · Chemicals known to cause reproductive toxicity for females: 		
None of the ingredients is listed.		

(Contd. on page 7)

— USA —

Material Safety Data Sheet

acc. to ISO/DIS 11014

Printing date 03/05/2007

Version 2

Reviewed on 03/05/2007

Trade name: Metrecast XL-197

(Contd. from page 6)

· Chemicals known to cause reproductive toxicity for males:		
None of the ingredients is listed.		
· Chemicals known to cause developmental toxicity:		
None of the ingredients is listed.		
· Carcinogenicity categories		
· EPA (Environmental Protection Agency)		
None of the ingredients is listed.		
· IARC (International Agency for Research on Cancer)		
1333-86-4	Carbon black	2B <0,5%
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· TLV (Threshold Limit Value established by ACGIH)		
1344-28-1	aluminum oxide	A4 >60%
· MAK (German Maximum Workplace Concentration)		
1344-28-1	aluminum oxide	2 >60%
	reactive diluent (epoxy functional)	3 1-3%
1333-86-4	Carbon black	3 <0,5%
· NIOSH-Ca (National Institute for Occupational Safety and Health)		
1333-86-4	Carbon black	<0,5%
· 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
N Dangerous for the environment

· Hazard-determining components of labelling:

Diglycidyl ether Bisphenol-A epoxy resin
reactive diluent (epoxy functional)
diuron (ISO)

· 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.
51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
68 Possible risk of irreversible effects.

· Safety phrases:

23 Do not breathe gas/fumes/vapour/spray.
25 Avoid contact with eyes.

(Contd. on page 8)

— USA —

Material Safety Data Sheet

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Trade name: Metrecast XL-197

(Contd. from page 7)

- 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.
- 57 Use appropriate container to avoid environmental contamination.
- 60 This material and its container must be disposed of as hazardous waste.
- 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.
 - 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.
 - 48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
 - 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 - 51/53 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.
 - 68 Possible risk of irreversible effects.

· **Department issuing MSDS:** Technical department

· **Contact:** Dr. John F. Plummer

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