



Safety Data Sheet acc. to OSHA HCS

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Printing date 04/26/2016

Version 7

Reviewed on 04/08/2015

1 Identification

- **Product identifier**
- **Trade name:** **Mereco Hardener 10**
- **Application of the substance / the mixture** Epoxy curing agent
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** Protavac America/Mereco Technologies
8 Ricker Avenue
Londonderry NH 03053
USA
Phone +1 / 603-623-8626
- **Information department:** Technical department.
email = info@mereco.com
- **Emergency telephone number:** 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 Hazard(s) identification

- **Classification of the substance or mixture**



Skin Corr. 1B H314 Causes severe skin burns and eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H312 Harmful in contact with skin.

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

- **Label elements**
- **GHS label elements**
- **Hazard pictograms**

The substance is classified and labeled according to the Globally Harmonized System (GHS).



GHS05 GHS07

- **Signal word**

Danger

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- **Hazard-determining components of labeling:** 3,6,9-triazaundecamethylenediamine
- **Hazard statements**
 - H302+H312 Harmful if swallowed or in contact with skin.
 - H314 Causes severe skin burns and eye damage.
 - H317 May cause an allergic skin reaction.
- **Precautionary statements**
 - P260 Do not breathe dusts or mists.
 - P280 Wear protective gloves / protective clothing.
 - P264 Wash thoroughly after handling.
 - P270 Do not eat, drink or smoke when using this product.
 - P272 Contaminated work clothing must not be allowed out of the workplace.
 - P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 - P310 Immediately call a POISON CENTER/doctor.
 - P321 Specific treatment (see on this label).
 - P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
 - P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P363 Wash contaminated clothing before reuse.
 - P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
 - P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
 - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**
 - Health = 3
 - Fire = 1
 - Reactivity = 0
- **HMIS-ratings (scale 0 - 4)**
 - Health = 3
 - Fire = 1
 - Reactivity = 0
- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description** 112-57-2 3,6,9-triazaundecamethylenediamine
- **Identification number(s)**
- **EC number:** 203-986-2
- **Index number:** 612-060-00-0

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· SVHC (Substances of Very High Concern - REACH)

Substance is not listed.

4 First-aid measures

· Description of 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 is necessary for at least 48 hours after the accident.

· 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. Then consult a doctor.

· After swallowing:

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

· 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

No further relevant information available.

5 Fire-fighting measures

· Extinguishing media
· Suitable extinguishing agents:

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

· Special hazards arising from the substance or mixture

No further relevant information available.

· Advice for firefighters
· Protective equipment:

No special measures required.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Inform respective authorities in case of seepage into water course or sewage system.

· Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Use neutralizing agent.

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Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

- **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** 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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:**

112-57-2 3,6,9-triazaundecamethylenediamine (>60%)

WEEL	Long-term value: 5 mg/m ³
	Skin; DSEN

- **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 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
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

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- Material of gloves

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.

- Penetration time of glove material

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.

- Eye protection:

The exact penetration time has to be determined by the glove manufacturer and has to be observed.
Tightly sealed goggles

9 Physical and chemical properties

- Information on basic physical and chemical properties

- General Information

- Appearance:

Form:	Liquid
Color:	Yellow
Odor:	Amine-like
Odour threshold:	Not determined.

pH-value:	Not determined.
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- Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	318 °C

Flash point:	163 °C
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Flammability (solid, gaseous):	Not applicable.
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- Ignition temperature:

Decomposition temperature:	Not determined.
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Auto igniting:	Not determined.
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Danger of explosion:	Product does not present an explosion hazard.
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- Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure at 20 °C:	0.01 hPa
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Density at 20 °C:	1 g/cm ³
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Relative density	Not determined.
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Vapor density	Not determined.
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Evaporation rate	Not determined.
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- Solubility in / Miscibility with

Water:	Not miscible or difficult to mix.
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- Partition coefficient (n-octanol/water): Not determined.

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- **Viscosity:**
 - Dynamic:** Not determined.
 - Kinematic:** Not determined.
 - Organic solvents:** 0.0 %
- **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
 - Reacts with acids.
 - Reacts with strong acids.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
 - Nitrogen oxides
 - Irritant gases/vapors

11 Toxicological information

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

· LD/LC50 values that are relevant for classification:

112-57-2 3,6,9-triazaundecamethylenediamine
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Dermal LD50	1260 mg/kg (rabbit)
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- **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:** Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

· IARC (International Agency for Research on Cancer)

Substance is not listed.

· NTP (National Toxicology Program)
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Substance is not listed.

· OSHA-Ca (Occupational Safety & Health Administration)
--

Substance is not listed.

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12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **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.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:** Water hazard class 2 (Assessment by list): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **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

- | | |
|-------------------------------------|-----------------------------|
| · UN-Number | UN2320 |
| · DOT, ADR, IMDG, IATA | |
| · UN proper shipping name | Tetraethylenepentamine |
| · DOT, IATA | 2320 Tetraethylenepentamine |
| · ADR | TETRAETHYLENEPENTAMINE |
| · IMDG | |
| · Transport hazard class(es) | |
| · DOT, IMDG, IATA | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · ADR | |
| · Class | 8 (C7) Corrosive substances |
| · Label | 8 |

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· Packing group	III
· DOT, ADR, IMDG, IATA	
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Corrosive substances
· Danger code (Kemler):	80
· EMS Number:	F-A, S-B
· Segregation groups	Alkalis
· Stowage Category	A
· Segregation Code	SG35 Stow "separated from" acids.
· 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: 5 L On cargo aircraft only: 60 L
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 2320 TETRAETHYLENEPENTAMINE, 8, III

15 Regulatory information

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

· Section 302 (extremely hazardous substances):

Substance is not listed.

· Section 313 (Specific toxic chemical listings):

Substance is not listed.

· Sections 311/312 (Specific hazard chemical listings):

Substance is listed.

· Sections 311/312 Hazard Categorizations:

112-57-2 | 3,6,9-triazaundecamethylenediamine

A = Acute, C = Chronic (health hazards)

· TSCA (Toxic Substances Control Act):

Substance is listed.

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· **Proposition 65**· **Chemicals known to cause cancer:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for females:**

Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**

Substance is not listed.

· **Chemicals known to cause developmental toxicity:**

Substance is not listed.

· **Carcinogenic categories**· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **MAK (German Maximum Workplace Concentration)**

Substance is not listed.

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

Substance is not listed.

· **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:** Technical department· **Contact:** Dr. John F. Plummer· **Date of preparation / previous revision** 04/26/2016 / 6

· **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
 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
 SVHC: Substances of Very High Concern
 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
 Acute Tox. 4: Acute toxicity, Hazard Category 4

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Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
Skin Sens. 1: Sensitisation - Skin, Hazard Category 1

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

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Version 1

Reviewed on 08/11/2016

1 Identification

· **Product identifier**

· **Trade name:**

ECN 809 Base Black

· **Details of the supplier of the safety data sheet**

· **Manufacturer/Supplier:**

Protavic America/Mereco Technologies
8 Ricker Avenue
Londonderry NH 03053
USA

Phone +1 / 603-623-8626

· **Information department:**

Technical department.
email = info@mereco.com

2 Hazard(s) identification

· **Classification of the substance or mixture**



Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.



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.

STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS07 GHS08

· **Signal word**

Danger

· **Hazard-determining components of labeling:**

Diglycidyl ether Bisphenol-A epoxy resin
aluminum oxide
Oxirane, 2-(butoxymethyl)-

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· Hazard statements	H315 Causes skin irritation.
	H319 Causes serious eye irritation.
· Precautionary statements	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
	H317 May cause an allergic skin reaction.
	H351 Suspected of causing cancer.
	H335 May cause respiratory irritation.
	P284 [In case of inadequate ventilation] wear respiratory protection.
	P261 Avoid breathing dust/fume/gas/mist/vapors/spray
	P280 Wear protective gloves.
	P280 Wear eye protection / face protection.
	P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P321 Specific treatment (see on this label).
· Classification system:	P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
	P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
	P312 Call a POISON CENTER/doctor if you feel unwell.
	P363 Wash contaminated clothing before reuse.
	P308+P313 IF exposed or concerned: Get medical advice/attention.
	P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
	P337+P313 If eye irritation persists: Get medical advice/attention.
	P403+P233 Store in a well-ventilated place. Keep container tightly closed.
	P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· NFPA ratings (scale 0 - 4)	Health = 1 Fire = 1 Reactivity = 0
· HMIS-ratings (scale 0 - 4)	Health = 1 Fire = 1 Reactivity = 0
· Other hazards	
· Results of PBT and vPvB assessment	
· PBT:	Not applicable.
· vPvB:	Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with non-hazardous additions.
Non-hazardous ingredients are not listed.

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Components:

Mineral filler	>60%
⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	
Diglycidyl Ether Bisphenol-A epoxy resin	20-40%
⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317; STOT SE 3, H335	
Oxirane, 2-(butoxymethyl)-	< 1%
⚠ Flam. Liq. 3, H226; ⚠ Resp. Sens. 1, H334; Muta. 2, H341; Carc. 2, H351; STOT RE 1, H372; ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	

SVHC (Substances of Very High Concern - REACH)

None of the ingredients is listed.

Additional information:

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

4 First-aid measures**Description of 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.

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

No further relevant information available.

5 Fire-fighting measures**Extinguishing media****Suitable extinguishing agents:**

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

Special hazards arising from the substance or mixture

No further relevant information available.

Advice for firefighters**Protective equipment:**

No special measures required.

6 Accidental release measures**Personal precautions, protective equipment and emergency procedures**

Not required.

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- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
- **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** 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.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **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:** The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

Oxirane, 2-(butoxymethyl)- (< 1%)

PEL	Long-term value: 270 mg/m ³ , 50 ppm
REL	Ceiling limit value: 30 mg/m ³ , 5.6 ppm *15-min
TLV	Long-term value: 16 mg/m ³ , 3 ppm Skin; DSEN

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

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- **Exposure controls**
- **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 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 cannot 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

- | | |
|--|-----------------|
| · Information on basic physical and chemical properties | |
| · General Information | |
| · Appearance: | |
| Form: | Not determined. |
| Color: | Black |
| Odor: | Light |
| Odour threshold: | Not determined. |
| · pH-value: | Not determined. |
| · Change in condition | |
| Melting point/Melting range: | Undetermined. |
| Boiling point/Boiling range: | 201 °C |
| · Flash point: | 254 °C |
| · Flammability (solid, gaseous): | Not applicable. |
| · Ignition temperature: | |
| Decomposition temperature: | Not determined. |

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· Auto igniting:	Product is not self-igniting.
· Danger of explosion:	Product does not present an explosion hazard.
· 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.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	0.0 %
· Solids content:	75.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

· Reactivity	No further relevant information available.
· Chemical stability	
· Thermal decomposition / conditions to be avoided:	No decomposition if used according to specifications.
· Possibility of hazardous reactions	No dangerous reactions known.
· Conditions to avoid	No further relevant information available.
· Incompatible materials:	No further relevant information available.
· Hazardous decomposition products:	Irritant gases/vapors

11 Toxicological information

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

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

1344-28-1 aluminum oxide

Oral	LD50	> 5000 mg/kg (rat)
Inhalative	LC50/4 h	7.6 mg/l (rat)

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Diglycidyl ether Bisphenol-A epoxy resin

Oral LD50 11400 mg/kg (rat)

Dermal LD50 2000 mg/kg (rat)

Oxirane, 2-(butoxymethyl)-

Oral LD50 2050 mg/kg (rat)

Dermal LD50 2520 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

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information· **Toxicity**· **Aquatic toxicity:**

No further relevant information available.

· **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.

· **Ecotoxicological effects:**· **Remark:**

Harmful to fish

· **Additional ecological information:**· **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

· **Results of PBT and vPvB assessment**· **PBT:**

Not applicable.

· **vPvB:**

Not applicable.

· **Other adverse effects**

No further relevant information available.

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13 Disposal considerations

- **Waste treatment methods**
- **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

· UN-Number	
· DOT, ADR, IMDG, IATA	Not Applicable
· UN proper shipping name	
· DOT	Not Regulated
· ADR, IMDG, IATA	Not Applicable
· Transport hazard class(es)	
· DOT, ADR, IMDG, IATA	
· Class	Not Applicable
· Packing group	
· DOT, ADR, IMDG, IATA	Not Applicable
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	Not Applicable

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

· Section 302 (extremely hazardous substances):
None of the ingredients is listed.
· Section 313 (Specific toxic chemical listings):
1344-28-1 aluminum oxide >60%
· Sections 311/312 (Specific hazard chemical listings):
None of the ingredients is listed.
· Sections 311/312 Hazard Categorizations:
None of the ingredients is listed.
· TSCA (Toxic Substances Control Act):
All ingredients are listed.

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· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· 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.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

1344-28-1	aluminum oxide	A4	>60%
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· MAK (German Maximum Workplace Concentration)

1344-28-1	aluminum oxide	2	>60%
	Oxirane, 2-(butoxymethyl)-	3B	<1%

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

None of the ingredients is listed.

· 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.

· Relevant phrases

H226 Flammable liquid and vapor.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H341 Suspected of causing genetic defects.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.

· Department issuing SDS: Technical department

· Contact: Dr. John F. Plummer

· Date of preparation / previous revision: 08/11/2016 / -

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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
 SVHC: Substances of Very High Concern
 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
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Corr. 1B: Skin corrosion/irritation – Category 1B
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Dam. 1: Serious eye damage/eye irritation – Category 1
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
 Resp. Sens. 1: Respiratory sensitisation – Category 1
 Skin Sens. 1: Skin sensitisation – Category 1
 Muta. 2: Germ cell mutagenicity – Category 2
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

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