

**1 Identification**

· **Product identifier**

· **Trade name:** **HERCULAN FC 4000 { A }**

· **Article number:** 603750/20

· **Application of the substance / the mixture** Coating compound/ Surface coating/ paint

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

· **Manufacturer/Supplier:**

**HERCULAN B.V.**  
Energieweg 6  
4231 DJ Meerkerk  
The Netherlands  
Phone +31 183 354700  
Fax: +31 183 354740  
e-mail: info@herculan.com

· **Information department:** Environmental department

· **Emergency telephone number:**

+49 (0) 6131 19240 [24 h - 365 d] - Giftinformationszentrale Mainz  
or  
+31 (0) 183 354 700 [Mo - Fr. 8 - 17 o'clock] - HERCULAN

**2 Hazard(s) identification**

· **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 1A H350 May cause cancer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

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

· **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:** Quartz (SiO2)  
reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700)  
Phenol, methylstyrenated  
1,6 hexandiglycidylether

· **Hazard statements** H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H350 May cause cancer.

· **Precautionary statements**

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P280 Wear protective gloves.

P280 Wear eye protection / face protection.

P264 Wash thoroughly after handling.

P272 Contaminated work clothing must not be allowed out of the workplace.

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

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).

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.

P302+P352 IF ON SKIN: Wash with plenty of water.

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P362+P364  
P405  
P501

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Take off contaminated clothing and wash it before reuse.  
Store locked up.  
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 1  
Reactivity = 0

· **HMS-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:** There are no additional ingredients present which are classified as hazardous to health or the environment and on this basis need to be mentioned in this section.

· **Dangerous components:**

25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700)	25 - 100%
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	
14808-60-7	Quartz (SiO2)	10 - 25%
	⚠ Carc. 1A, H350	
68512-30-1	Phenol, methylstyrenated	5 - 10%
	⚠ Skin Irrit. 2, H315; Skin Sens. 1, H317	
	1,6 hexandiglycidylether	2,5 - 5%
	⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Skin Sens. 1, H317	

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

**4 First-aid measures**

· **Description of first aid measures**

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

· **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.  
Immediately wash with water and soap and rinse thoroughly.

· **After skin contact:** Immediately rinse with water.

· **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:** No further relevant information available.

· **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.

Use fire fighting measures that suit the environment.

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- **Special hazards arising from the substance or mixture**  
Formation of toxic gases is possible during heating or in case of fire.
- **Advice for firefighters**
- **Protective equipment:**  
Do not inhale explosion gases or combustion gases.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Not required.
- **Environmental precautions:**  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to 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**  
No special measures required.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle receptacle with care.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep respiratory protective device available.
- **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:**  
Protect from frost.  
Keep receptacle tightly sealed.  
Store in dry conditions.  
Store in a cool place.
- **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 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.
- **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.  
Store protective clothing separately.  
Avoid contact with the eyes and skin.  
Do not eat, drink, smoke or sniff while working.

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- **Breathing equipment:**  
 Only during spraying without adequate removal by suction.  
Use suitable respiratory protective device in case of insufficient ventilation.  
Use suitable respiratory protective device when high concentrations are present.
- **Recommended filter device for short term use:**  
Combination filter A-P2
- **Protection of hands:**  
 Protective gloves  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
- **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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.  
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
- **As protection from splashes gloves made of the following materials are suitable:**  
Nitrile rubber, NBR  
Natural rubber, NR
- **Eye protection:**  
 Tightly sealed goggles
- **Body protection:**  
 Protective work clothing

**9 Physical and chemical properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
- **Form:**  
Fluid
- **Color:**  
According to product specification
- **Odor:**  
Characteristic
- **Odor threshold:**  
Not determined.
- **pH-value:**  
Not determined.
- **Change in condition**
- **Melting point/Melting range:**  
Undetermined.
- **Boiling point/Boiling range:**  
2230 °C (4046 °F)
- **Flash point:**  
201 °C (394 °F)
- **Flammability (solid, gaseous):**  
Not applicable.
- **Ignition temperature:**  
> 300 °C (> 572 °F)
- **Decomposition temperature:**  
Not determined.
- **Auto igniting:**  
Product is not selfigniting.
- **Danger of explosion:**  
Product does not present an explosion hazard.
- **Explosion limits:**
- **Lower:**  
Not determined.
- **Upper:**  
Not determined.

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· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1.93145 g/cm <sup>3</sup> (16.118 lbs/gal)
· 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:	0.2 %
Water:	0.0 %
· Solids content:	90.4 %
· 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:	No dangerous decomposition products known.

**11 Toxicological information**

· Information on toxicological effects	
· Acute toxicity:	
· LD/LC50 values that are relevant for classification:	
25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700)	
Oral	LD50 11400 mg/kg (rat)
Dermal	LD50 >2000 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

· Carcinogenic categories		
· IARC (International Agency for Research on Cancer)		
14808-60-7	Quartz (SiO <sub>2</sub> )	1
1309-37-1	diron trioxide	3
13463-67-7	titanium dioxide	2B
14808-60-7	Quartz (SiO <sub>2</sub> )	1

· NTP (National Toxicology Program)		
14808-60-7	Quartz (SiO <sub>2</sub> )	K

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14808-60-7	Quartz (SiO <sub>2</sub> )	K
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ingredients is listed.		

**12 Ecological information**

· Toxicity	
· Aquatic toxicity:	
25068-38-6 reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700)	
Acute LC50	2 mg/L (Onchorynchus mykiss) (96 h)
	2 mg/L (leuciscus idus)
Acute EC50	1.8 mg/L (Daphnia Magna) (48h)
92/69/EEC-C.2 - EC50	11 mg/l (algae)
	1.8 mg/l (daphnia)
· Persistence and degradability	No further relevant information available.
· Behavior in environmental systems:	
· Bioaccumulative potential	No further relevant information available.
· Mobility in soil	No further relevant information available.
· 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.
· 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:	Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

**14 Transport information**

· UN-Number	
· DOT	Void
· ADR, IMDG, IATA	UN3082
· UN proper shipping name	
· DOT	Void
· ADR	3082 Environmentally hazardous substances, liquid, n.o.s. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700))
· IMDG	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700), Solvent naphtha (petroleum), light arom.), MARINE POLLUTANT
· IATA	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700))

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· <b>Transport hazard class(es)</b>	
· DOT	Void
· Class	Void
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· <b>ADR</b>	
· Class	9 (M6) Miscellaneous dangerous substances and articles
· Label	9
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· <b>IMDG, IATA</b>	
· Class	9 Miscellaneous dangerous substances and articles
· Label	9
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· <b>Packing group</b>	
· DOT	Void
· ADR, IMDG, IATA	III
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· <b>Environmental hazards:</b> Product contains environmentally hazardous substances: reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700)	
· <b>Marine pollutant:</b> Yes	
· <b>Special marking (ADR):</b> Symbol (fish and tree)	
· <b>Special marking (IATA):</b> Symbol (fish and tree)	
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· <b>Special precautions for user</b> Warning: Miscellaneous dangerous substances and articles	
· <b>Danger code (Kemler):</b> 90	
· <b>EMS Number:</b> F-A,S-F	
· <b>Stowage Category</b> A	
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· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> Not applicable.	
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· <b>Transport/Additional information:</b>	
· <b>ADR</b>	
· <b>Excepted quantities (EQ)</b>	
	-
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
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· <b>IMDG</b>	
· <b>Limited quantities (LQ)</b> 5L	
· <b>Excepted quantities (EQ)</b>	
	-
	Maximum net quantity per inner packaging: 30 ml
	Maximum net quantity per outer packaging: 1000 ml
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· <b>UN "Model Regulation":</b> UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (REACTION PRODUCT: BISPHENOL-A-(EPICHLORHYDRIN) EPOXY RESIN (MW = 700)), 9, III	

**15 Regulatory information**

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

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

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<b>Trade name: HERCULAN FC 4000 { A }</b>		
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· <b>Section 313 (Specific toxic chemical listings):</b>		
7727-43-7	barium sulphate, natural	
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· <b>TSCA (Toxic Substances Control Act):</b>		
7727-43-7	barium sulphate, natural	
25068-38-6	reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700)	
14808-60-7	Quartz (SiO2)	
68512-30-1	Phenol, methylstyrenated	
	1,6 hexandiglycidylether	
68186-91-4	Copper chromite spinel pigment Cu(Cr,Fe)2O4	
1309-37-1	diiron trioxide	
20344-49-4	iron hydroxide oxide	
13463-67-7	titanium dioxide	
98-55-5	p-menth-1-en-8-ol	
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· <b>Proposition 65</b>		
· <b>Chemicals known to cause cancer:</b>		
14808-60-7	Quartz (SiO2)	
13463-67-7	titanium dioxide	
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· <b>Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients is listed.		
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· <b>Chemicals known to cause reproductive toxicity for males:</b>		
None of the ingredients is listed.		
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· <b>Chemicals known to cause developmental toxicity:</b>		
None of the ingredients is listed.		
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· <b>Carcinogenity categories</b>		
· <b>EPA (Environmental Protection Agency)</b>		
7727-43-7	barium sulphate, natural	D, CBD(inh), NL(oral)
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· <b>TLV (Threshold Limit Value established by ACGIH)</b>		
14808-60-7	Quartz (SiO2)	A2
1309-37-1	diiron trioxide	A4
13463-67-7	titanium dioxide	A4
14808-60-7	Quartz (SiO2)	A2
80-56-8	pin-2(3)-ene	A4
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· <b>MAK (German Maximum Workplace Concentration)</b>		
14808-60-7	Quartz (SiO2)	1
13463-67-7	titanium dioxide	3A
14808-60-7	Quartz (SiO2)	1
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· <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>		
14808-60-7	Quartz (SiO2)	
13463-67-7	titanium dioxide	
14808-60-7	Quartz (SiO2)	
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· <b>GHS label elements</b>		
· <b>Hazard pictograms</b>		
· <b>Signal word</b>		
The product is classified and labeled according to the Globally Harmonized System (GHS). GHS07, GHS08 Danger		
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· <b>Hazard-determining components of labeling:</b>		
Quartz (SiO2) reaction product: bisphenol-A-(epichlorhydrin) epoxy resin (MW = 700) Phenol, methylstyrenated 1,6 hexandiglycidylether		
-----		
· <b>Hazard statements</b>		
H315 Causes skin irritation. H319 Causes serious eye irritation. H317 May cause an allergic skin reaction. H350 May cause cancer.		
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· <b>Precautionary statements</b>		
P261	Avoid breathing dust/fume/gas/mist/vapors/spray	
P280	Wear protective gloves.	

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- P280 Wear eye protection / face protection.
- P264 Wash thoroughly after handling.
- P272 Contaminated work clothing must not be allowed out of the workplace.
- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- 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).
- 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.
- P302+P352 IF ON SKIN: Wash with plenty of water.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P405 Store locked up.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **National regulations:**
- **Additional classification according to Decree on Hazardous Materials:**

Carcinogenic hazardous material group III (dangerous).

- **Information about limitation of use:**

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation. Exceptions can be made by the authorities in certain cases.

- **Technical instructions (air):**

Class	Share in %
NK	0.2

- **Water hazard class:**

Water hazard class 2 (Self-assessment): hazardous for water.

- **VOC**
- **VOC EU [%]** 0.06 %
- **VOC EU [g/l]** 1.2 g/l
- **VOC USA** 1.2 g/l / 0.01 lb/gl
- **VOC CH** 0.06 %
- **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:**
- **Contact:**
- **Date of preparation / last revision**
- **Abbreviations and acronyms:**

Environmental Department  
 Dr. Michael Kissel  
 08/02/2016 / 19

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organisation  
 ADR: Accord 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  
 Skin Irrit. 2: Skin corrosion/irritation – Category 2  
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2  
 Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
 Skin Sens. 1: Skin sensitisation – Category 1  
 Carc. 1A: Carcinogenicity – Category 1A

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· \* Data compared to the previous version altered.