SECTION 1: Identification of the substance/mixture and of the company/undertaking

- Product identifier
  - Trade name: **AquaGreen Surfacer Hardener**

- Article number: 7127

- Relevant identified uses of the substance or mixture and uses advised against
  - No further relevant information available.

- Application of the substance / the preparation
  - Hardening agent/Curing agent

- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier:
    Kristal Coatings B.V.
    Platinawerf 22B
    6641 TL Beuningen - Holland
    Tel: 0031 24 67 526 36
    Fax: 0031 24 67 533 60

- Further information obtainable from: Product safety department: info@kristalcoatings.nl

- Emergency telephone number: 0031 24 67 526 36

SECTION 2: Hazards identification

- Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008

  - GHS02 flame
  - Flam. Liq. 2 H225 Highly flammable liquid and vapour.

  - GHS05 corrosion
  - Eye Dam. 1 H318 Causes serious eye damage.

  - GHS07
  - Skin Sens. 1 H317 May cause an allergic skin reaction.
  - STOT SE 3 H336 May cause drowsiness or dizziness.

  - Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

- Classification according to Directive 67/548/EEC or Directive 1999/45/EC

  - Xi; Irritant
  - R36: Irritating to eyes.

  - Xi; Sensitising
  - R43: May cause sensitisation by skin contact.

  - F; Highly flammable
  - R11: Highly flammable.

  - R52/53-66-67: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

- Information concerning particular hazards for human and environment:
  - The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.
  - At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

- Classification system:
  - The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

(Contd. on page 2)
Trade name: AquaGreen Surfacer Hardener

Label elements

Labelling according to EU guidelines:
The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

Code letter and hazard designation of product:

- Xi Irritant
- F Highly flammable

Hazard-determining components of labelling:
Hexane, 1,6-diisocyanato-, homopolymer
isophorondiisocyanate, homopolymer

Risk phrases:
11 Highly flammable.
36 Irritating to eyes.
43 May cause sensitisation by skin contact.
52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
66 Repeated exposure may cause skin dryness or cracking.
67 Vapours may cause drowsiness and dizziness.

Safety phrases:
7/8 Keep container tightly closed and dry.
23 Do not breathe vapour/spray.
25 Avoid contact with eyes.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37 Wear suitable protective clothing and gloves.
60 This material and its container must be disposed of as hazardous waste.

Special labelling of certain preparations:
Contains isocyanates. See information supplied by the manufacturer
Restricted to professional users.

Other hazards

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

Chemical characterization: Mixtures
Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

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<thead>
<tr>
<th>CAS</th>
<th>EINECS</th>
<th>Description</th>
<th>R36</th>
<th>R43</th>
<th>R66-67</th>
<th>H225</th>
<th>H319</th>
<th>STOT SE 3</th>
<th>H336</th>
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<td>141-75-6</td>
<td>205-500-4</td>
<td>ethyl acetate</td>
<td>Xi</td>
<td>F</td>
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<td>Xi</td>
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<td>123-86-4</td>
<td>EINECS: 204-658-1</td>
<td>n-butyl acetate</td>
<td>Xi</td>
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</table>

(Contd. on page 3)
Trade name: AquaGreen Surfacer Hardener

(Contd. of page 2)

| CAS: 9046-01-9 | Polyoxyethylene tridecyl ether phosphate | 2,5-10% |
| CAS: 98-94-2 | N,N-dimethylcyclohexylamine | 0,5-2,5% |
| CAS: 822-06-0 | hexamethylene-di-isocyanate | ≤ 0,5% |
| CAS: 4098-71-9 | 3-isocyanatomethyl-3,5,5-trimethylcyclohexyl isocyanate | ≤ 0,5% |

SECTION 4: First aid measures

· Description of first aid measures
· General information:
  Immediately remove any clothing soiled by the product.
  Take affected persons out into the fresh air.
  Seek medical treatment.
· 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:
  Rinse mouth.
  Do not induce vomiting; call for medical help immediately.
· 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.

SECTION 5: Firefighting measures

· Extinguishing media
· Suitable extinguishing agents: CO2 or powder. Fight larger fires with alcohol resistant foam.
· For safety reasons unsuitable extinguishing agents: Water with full jet
· 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: Wear self-contained respiratory protective device.

SECTION 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.
  Do not allow to enter sewers/ surface or ground water.
· Methods and material for containment and cleaning up:
  Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
  Ensure adequate ventilation.
· Reference to other sections
  See Section 7 for information on safe handling.
  See Section 8 for information on personal protection equipment.

(Contd. on page 4)
Trade name: **AquaGreen Surfacer Hardener**

See Section 13 for disposal information.

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**SECTION 7: Handling and storage**

- **Handling:**
  - Precautions for safe handling
    - Ensure good ventilation/exhaustion at the workplace.
    - Prevent formation of aerosols.
    - Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.
    - Examination of lung function should be carried out on a regular basis on persons spraying this preparation.
  - Information about fire - and explosion protection:
    - Keep ignition sources away - Do not smoke.
    - Protect against electrostatic charges.

- **Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - Requirements to be met by storerooms and receptacles:
      - Store in a cool location.
      - Store only in the original receptacle.
      - Provide solvent resistant, sealed floor.
    - Information about storage in one common storage facility:
      - Do not store together with acids.
      - Do not store together with alkalis (caustic solutions).
      - Store away from oxidizing agents.
    - Further information about storage conditions:
      - Keep container tightly sealed.
      - Store in cool, dry conditions in well sealed receptacles.
      - This product is hygroscopic.
  - **Storage class:** 3

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**SECTION 8: Exposure controls/personal protection**

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

- **Control parameters**
  - Ingredients 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.
  - **DNELs**
    - **141-78-6 ethyl acetate**
      - Dermal - Long-term exposure - systemic effects: 63 mg/kg bw/day (worker)
      - Inhalative Acute - short-term exposure - local effects: 1468 mg/m³ (worker)
      - Acute - short-term exposure - systemic effects: 1468 mg/m³ (worker)
      - Long-term exposure - local effects: 734 mg/m³ (worker)
      - Long-term exposure - systemic effects: 734 mg/m³ (worker)
  - **PNECs**
    - **141-78-6 ethyl acetate**
      - PNEC 650 mg/l (STP)
      - 0.26 mg/l (aqua, freshwater)
      - 1.65 mg/l (aqua, intermittent releases)
      - 0.026 mg/l (aqua, marine water)
      - 0.125 mg/kg (sediment marine water)
      - 1.25 mg/kg (sediment freshwater)
  - **Additional information:**
    - The lists valid during the making were used as basis.
    - Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.
    - Examination of lung function should be carried out on a regular basis on persons spraying this preparation.

- **Exposure controls**
  - **Personal protective equipment:**
  - **General protective and hygienic measures:**
    - Keep away from foodstuffs, beverages and feed.
Trade name: **AquaGreen Surfacer Hardener**

Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes.  
Avoid contact with the eyes and skin.  
• Respiratory protection:  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.  
• Protection of hands:
  
  ![Protective gloves](image)  
  
  The glove material has to be impermeable and resistant to the product.  
  Due to missing tests no recommendation to the glove material can be given for the product.  
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation  
  • 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](image)  
  
  • Body protection: Protective work clothing  

**SECTION 9: Physical and chemical properties**

• Information on basic physical and chemical properties  
• General Information  
• Appearance:  
  Form: Fluid  
  Colour: Clear  
  Odour: Characteristic  
• Change in condition  
  Boiling point/Boiling range: 77°C  
• Flash point: 10°C  
• Ignition temperature: 370°C  
• Self-igniting: Product is not selfigniting.  
• Danger of explosion: Product is not explosive. However, formation of explosive air/vapour mixtures are possible.  
• Explosion limits:  
  Lower: 2.1 Vol %  
  Upper: 11.5 Vol %  
• Vapour pressure at 20°C: 97 hPa  
• Density at 20°C: 1.00 g/cm³  
• Solubility in / Miscibility with water: Reacts.  
• Solvent content:  
  Organic solvents: 54 %  
  VOC (EC): 56.02 %  
  Solids content: 46 %
Trade name: **AquaGreen Surfacer Hardener**

**SECTION 10: Stability and reactivity**

- **Reactivity**
  - Chemical stability: Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
  - Possibility of hazardous reactions: Reacts with alcohols, amines, aqueous acids and alkalis.
  - Conditions to avoid: High temperatures, humidity.
- Incompatible materials: Oxidizing agents.
- Hazardous decomposition products: Carbon dioxide, Nitrogen oxides (NOx)

**SECTION 11: Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**
  - LD/LC50 values relevant for classification:
    - 141-78-6 ethyl acetate
      - Oral LD50: 4935 mg/kg (rabbit)
      - Dermal LD50: >5000 mg/kg (rabbit)
      - Inhalative LC50/6h: 22.5 mg/l (rat)
  - Primary irritant effect:
    - on the skin: Irritates the skin.
    - on the eye: Irritating effect.
  - Sensitization: Sensitization possible through skin contact.
  - Additional toxicological information: The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
    - Irritant
    - Sensitisation: May cause sensitization on contact with skin.

**SECTION 12: Ecological information**

- **Toxicity**
- **Aquatic toxicity:**
  - 141-78-6 ethyl acetate
    - EC50/24h: >164 mg/l (daphnia magna)
    - LC50/96h: >230 mg/l (pimphales promelas)
  - Persistence and degradability: No further relevant information available.
  - Behaviour in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: No further relevant information available.
  - Ecotoxic effects:
    - Remark: Harmful to fish
  - Additional ecological information:
    - General notes: Water hazard class 2 (German Regulation) (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.
SECTION 13: Disposal considerations

· Waste treatment methods
· Recommendation: Must not be disposed together with household garbage. Do not allow product to reach sewage system.
· European waste catalogue

08 01 11* waste paint and varnish containing organic solvents or other dangerous substances

· Uncleaned packaging:
· Recommendation: Disposal must be made according to official regulations.

SECTION 14: Transport information

· UN-Number
· UN1263
· UN proper shipping name
· 1263 PAINT
· ADR, IMDG, IATA
· PAINT RELATED MATERIAL
· Transport hazard class(es)
· ADR, IMDG, IATA

· Class
· 3 Flammable liquids.
· Label
· 3
· Packing group
· II
· ADR, IMDG, IATA
· Environmental hazards:
· Marine pollutant:
· No
· Special precautions for user
· Warning: Flammable liquids.
· Danger code (Kemler):
· 33
· EMS Number:
· F-E-S-E
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
· Not applicable.
· Transport/Additional information:

· ADR
· Tunnel restriction code
· D/E
· UN "Model Regulation":
· UN1263, PAINT, 3, II

SECTION 15: Regulatory information

· Safety, health and environmental regulations/legislation specific for the substance or mixture
· National regulations:
· Other regulations, limitations and prohibitive regulations
· The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation.
· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 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
· H225 Highly flammable liquid and vapour.
· H226 Flammable liquid and vapour.
· H302 Harmful if swallowed.
· H311 Toxic in contact with skin.
· H312 Harmful in contact with skin.

(Contd. on page 8)
Trade name: **AquaGreen Surfacer Hardener**

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.
H330 Fatal if inhaled.
H331 Toxic if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
R10 Flammable.
R11 Highly flammable.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R23 Toxic by inhalation.
R34 Causes burns.
R36 Irritating to eyes.
R36/37/38 Irritating to eyes, respiratory system and skin.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R42/43 May cause sensitisation by inhalation and skin contact.
R43 May cause sensitisation by skin contact.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.

**Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
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
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent