

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 01.06.2015

Revision: 14.05.2015

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

For professional use only

- **1.1 Product identifier** For professional use only
- **Trade name:** Hardener 9002
- **Article number:** 9002
- **1.2 Relevant identified uses of the substance or mixture and uses advised against** Surface Coating
- **Application of the substance / the mixture**
Surface Coating
2K Hardener
- **1.3 Details of the supplier of the safety data sheet**
- **Supplier:**
Granwax products ltd
West street,
Riddings,
Alfreton,
Derbyshire De55 4ew
Tel: +44(0)1773 541177
Email: info@granwax.com
- **1.4 Emergency telephone number:** +44(0)1773 541177

SECTION 2: Hazards identification

- **2.1 Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 3 H226 Flammable liquid and vapour.



GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Irrit. 2 H315 Causes skin irritation.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

- **2.2 Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the CLP regulation.
- **Hazard pictograms** GHS02, GHS07
- **Signal word** Warning
- **Hazard-determining components of labelling:**
Aliphatic Polyisocyanate
Xylene (mix)
ethylbenzene
hexamethylene-di-isocyanate

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- **Hazard statements**
 - Flammable liquid and vapour.
 - Harmful if inhaled.
 - Causes skin irritation.
 - May cause an allergic skin reaction.
 - May cause respiratory irritation.
- **Precautionary statements**
 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
 - Use explosion-proof electrical/ventilating/lighting/equipment.
 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - Specific treatment (see on this label).
 - Store locked up.
 - Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Additional information:**
 - Contains isocyanates. May produce an allergic reaction.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 28182-81-2	Aliphatic Polyisocyanate ⚠ Acute Tox. 4, H332; Skin Sens. 1, H317; STOT SE 3, H335	50-100%
CAS: 108-65-6 EINECS: 203-603-9	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226	10-25%
CAS: 1330-20-7 EINECS: 215-535-7	Xylene (mix) ⚠ Flam. Liq. 3, H226; ⚠ Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315	10-25%
CAS: 100-41-4 EINECS: 202-849-4	ethylbenzene ⚠ Flam. Liq. 2, H225; ⚠ STOT RE 2, H373; Asp. Tox. 1, H304; ⚠ Acute Tox. 4, H332	≤ 2.5%
CAS: 822-06-0 EINECS: 212-485-8	hexamethylene-di-isocyanate ⚠ Acute Tox. 3, H331; ⚠ Resp. Sens. 1, H334; ⚠ Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	≤ 2.5%

- **Additional information:**
 - Hexamethylene-1,6-diisocyanate wt% <0.5%
 - For the wording of the listed risk phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:**
 - In case of unconsciousness place the patient stably in side position for transportation. If the aerosol or vapour in inhaled in high concentrations, take the person into fresh air, keep warm and let rest. If there is difficulty in breathing, medical advice is required.
 - Supply fresh air and 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.

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- **After eye contact:**
Hold the eye open and rinse with (preferably) luke warm water for a sufficiently long period of time (at least 10 minutes). Contact a doctor or ophthalmologist.
- **After swallowing:** DO NOT induce the patient to vomit, medical advice is required.
- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture** No further relevant information available.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Mount respiratory protective device.
In the event of fire, carbon monoxide, nitrogen oxides, isocyanate vapour and traces of hydrogen cyanide may be released. Firemen must wear self-contained breathing apparatus. Do not allow contaminated extinguishing water to enter the soil, groundwater or surface waters.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 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.
- **6.4 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.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Keep receptacles tightly sealed.
Ensure good ventilation/extraction at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Store separately from oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohols and water
- **Information about storage in one common storage facility:**
Store separately from oxidising agents, strongly alkaline, strongly acidic materials, amines, alcohols and water.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

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· 7.3 **Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **Additional information about design of technical facilities:** No further data; see item 7.· 8.1 **Control parameters**· **Ingredients with limit values that require monitoring at the workplace:****108-65-6 2-methoxy-1-methylethyl acetate**

WEL	Short-term value: 548 mg/m ³ , 100 ppm Long-term value: 274 mg/m ³ , 50 ppm Sk
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1330-20-7 Xylene (mix)

WEL	Short-term value: 441 mg/m ³ , 100 ppm Long-term value: 220 mg/m ³ , 50 ppm Sk; BMGV
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100-41-4 ethylbenzene

WEL	Short-term value: 552 mg/m ³ , 125 ppm Long-term value: 441 mg/m ³ , 100 ppm Sk
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822-06-0 hexamethylene-di-isocyanate

WEL	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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· **Ingredients with biological limit values:****1330-20-7 Xylene (mix)**

BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid
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· **Additional information:** The lists valid during the making were used as basis.· 8.2 **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.

· **Respiratory protection:**

In the case of hypersensitivity of the respiratory tract (e.g. asthmatics and those who suffer from chronic bronchitis) it is inadvisable to work with the product.

When spraying the product, use a respiratory protective device.

· **Protection of hands:**

Conditionally suitable materials for protective gloves: DIN EN 374-3 fluorinated rubber-FKM: thickness >0.40mm. Breakthrough time: only suitable for splashes.

When skin exposure may occur, advice should be sought from the glove supplier on appropriate types and usage times for this product.



Protective gloves

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

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

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· Material of gloves

Conditionally suitable materials for protective gloves: DIN EN 374-3 fluorinated rubber - FKM: thickness >0.04mm.

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

Only suitable for splashes

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

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties**· General Information****· Appearance:**

Form: Fluid
Colour: According to product specification

· Odour: Characteristic

· Odour threshold: Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/Melting range: Undetermined.

Boiling point/Boiling range: 137 °C

· Flash point: 30 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 315 °C

· Decomposition temperature: Not determined.

· 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: 1.1 Vol %

Upper: 10.8 Vol %

· Vapour pressure at 20 °C: 6.7 hPa

· Density at 20 °C: 1.07 g/cm³

· Relative density Not determined.

· Vapour density Not determined.

· Evaporation rate Not determined.

· Solubility in / Miscibility with water:

NOT MISCIBLE

· Partition coefficient (n-octanol/water): Not determined.

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· Viscosity:	
Dynamic at 20 °C:	600 mPas
Kinematic:	Not determined.
· Solvent content:	
Organic solvents:	24.7 %
· Solids content:	75.0 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity**
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions**
Exothermic reaction with amines and alcohols, reacts slowly with water forming CO₂. In closed containers, risk of bursting due to increased pressure,
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
Oxidising agents, strongly alkaline and strongly acidic materials, amines, alcohols and water.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** No irritating effect.
- **Respiratory or skin sensitisation** Sensitisation possible through skin contact.
- **Additional toxicological information:**
Based on the properties of the isocyanate content of this product, respiratory exposure may cause acute irritation and / or sensitisation of the respiratory system, resulting in asthmatic symptoms, wheezing and a tightness of the chest, Sensitised persons may subsequently show asthmatic symptoms when exposed to airborne concentrations of isocyanates well below the occupational exposure limit. Repeated exposure may lead to permanent respiratory disability.

COSHH requires that persons exposed to products containing HDI which is a respiratory sensitizer are subject to appropriate health surveillance. Publications giving guidance on health surveillance are listed in Section 16.

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:

Harmful
Irritant

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.

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- **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.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- | | |
|--|--|
| <ul style="list-style-type: none"> · 14.1 UN-Number · ADR, IMDG, IATA | UN1263 |
| <ul style="list-style-type: none"> · 14.2 UN proper shipping name · ADR · IMDG, IATA | 1263 PAINT RELATED MATERIAL (not viscous)
PAINT RELATED MATERIAL |
| <ul style="list-style-type: none"> · 14.3 Transport hazard class(es) · ADR, IMDG, IATA | <div style="text-align: center;">  </div> |
| <ul style="list-style-type: none"> · Class · Label | 3 Flammable liquids.
3 |
| <ul style="list-style-type: none"> · 14.4 Packing group · ADR, IMDG, IATA | III |
| <ul style="list-style-type: none"> · 14.5 Environmental hazards: · Marine pollutant: | No |
| <ul style="list-style-type: none"> · 14.6 Special precautions for user · Danger code (Kemler): · EMS Number: | Warning: Flammable liquids.
30
F-E, <u>S-E</u> |
| <ul style="list-style-type: none"> · 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| <ul style="list-style-type: none"> · Transport/Additional information: | |
| <ul style="list-style-type: none"> · ADR · Limited quantities (LQ) · Excepted quantities (EQ) | 5L
Code: E1
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 1000 ml |
| <ul style="list-style-type: none"> · Transport category · Tunnel restriction code | 3
D/E |

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· 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":	UN1263, PAINT RELATED MATERIAL (not viscous), 3, III

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **National regulations:**
- **Technical instructions (air):**

Class	Share in %
I	0.5
NK	24.7

- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Publications available from the HSE:

Breath Freely, INDG 172; respiratory Sensitisers and COSHH - a guide for employers INDG95; Isocyanates - health hazards and precautionary measures, EH11 etc.

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.
- H304 May be fatal if swallowed and enters airways.
- H312 Harmful in contact with skin.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- 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.
- H373 May cause damage to organs through prolonged or repeated exposure.

· **Department issuing MSDS:** Product safety department: LABORATORY

· **Contact:** Health & Safety Officer

· **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)

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

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

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*CAS: Chemical Abstracts Service (division of the American Chemical Society)**Flam. Liq. 2: Flammable liquids, Hazard Category 2**Flam. Liq. 3: Flammable liquids, Hazard Category 3**Acute Tox. 3: Acute toxicity, Hazard Category 3**Acute Tox. 4: Acute toxicity, Hazard Category 4**Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2**Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2**Resp. Sens. 1: Sensitisation - Respirat., Hazard Category 1**Skin Sens. 1: Sensitisation - Skin, Hazard Category 1**STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3**STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2**Asp. Tox. 1: Aspiration hazard, Hazard Category 1*

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