



Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.03.2015

Version number 3

Revision: 02.03.2015

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

- 1.1 Product identifier
- Trade name: **KRISTAL EP Primer-Surfacers 62 Hardener PLUS**
- Article number: 8370
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
No further relevant information available.
- Application of the substance / the mixture Hardening agent/ Curing agent
- 1.3 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
- 1.4 Emergency telephone number:
National Poisoning Information Centre - Bilthoven - The Netherlands
T +31 (0)30 274 88 88
Restricted to physicians for information on ingredients.

SECTION 2: Hazards identification

- 2.1 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.



GHS07

Acute Tox. 4 H312 Harmful in contact with skin.
 Acute Tox. 4 H332 Harmful if inhaled.
 Skin Irrit. 2 H315 Causes skin irritation.
 Skin Sens. 1 H317 May cause an allergic skin reaction.

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

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



C; Corrosive

R34: Causes burns.



Xn; Harmful

R20/21: Harmful by inhalation and in contact with skin.



Xi; Irritant

R37: Irritating to respiratory system.



Xi; Sensitising

R43: May cause sensitisation by skin contact.



F; Highly flammable

R11: Highly flammable.

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

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- 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 Danger
- Hazard-determining components of labelling:
xylene
3,6-diazaoctanethylenediamin
ethylbenzene
- Hazard statements
H225 Highly flammable liquid and vapour.
H312 Harmful in contact with skin.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.
- Precautionary statements
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe mist/vapours/spray.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P312 IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.
P403+P235 Store in a well-ventilated place. Keep cool.
- 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: 1330-20-7 EINECS: 215-535-7 Reg.nr.: 01-2119488216-32	xylene Xn R20/21-65; Xi R36/37/38 R10	25-50%
CAS: 78-93-3 EINECS: 201-159-0 Reg.nr.: 01-2119457290-43	butanone Xi R36; F R11 R66-67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	2,5-10%
CAS: 78-83-1 EINECS: 201-148-0 Reg.nr.: 01-2119484609-23	butanol Xi R37/38-41 R10-67 Flam. Liq. 3, H226; Eye Dam. 1, H318; Skin Irrit. 2, H315; STOT SE 3, H335-H336	2,5-10%
CAS: 112-24-3 EINECS: 203-950-6	3,6-diazaoctanethylenediamin C R34; Xn R21; Xi R43 R52/53 Skin Corr. 1B, H314; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	2,5-10%

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CAS: 100-41-4
EINECS: 202-849-4
 ethylbenzene
 Xn R20-48/20-65; F R11
 Flam. Liq. 2, H225; STOT RE 2, H373; Asp. Tox. 1, H304; Acute Tox. 4, H332;
 Aquatic Chronic 3, H412

0,5-2,5%

 Additional information: 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:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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.

If skin irritation continues, consult a doctor.

After eye contact:

Remove contactlenses.

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing:

Do not induce vomiting; call for medical help immediately.

Drink plenty of water and provide fresh air. Call for a doctor immediately.

Rinse mouth.

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 or powder. Fight larger fights with alcohol resistant foam.

5.2 Special hazards arising from the substance or mixture

Carbon monoxide (CO)

5.3 Advice for firefighters

Protective equipment: Wear self-contained respiratory protective device.

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:

Dilute with plenty of water.

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

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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- 7.2 Conditions for safe storage, including any incompatibilities
 - Storage:
 - Requirements to be met by storerooms and receptacles: Store in a cool location.
 - Information about storage in one common storage facility: Store away from oxidising agents.
 - Further information about storage conditions:
 - Keep container tightly sealed.
 - Store in cool, dry conditions in well sealed receptacles.
 - Storage class: 3
 - 7.3 Specific end use(s) No further relevant information available.
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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:

1330-20-7 xylene

IOELV Short-term value: 442 mg/m³, 100 ppm
 Long-term value: 221 mg/m³, 50 ppm
 Skin

78-93-3 butanone

IOELV Short-term value: 900 mg/m³, 300 ppm
 Long-term value: 600 mg/m³, 200 ppm

100-41-4 ethylbenzene

IOELV Short-term value: 884 mg/m³, 200 ppm
 Long-term value: 442 mg/m³, 100 ppm
 Skin

· DNELs

1330-20-7 xylene

Dermal	Long-term exposure - systemic effects	180 mg/kg bw/day (worker)
Inhalative	Acute - short-term exposure - local effects	289 mg/m ³ (worker)
	Acute - short-term exposure - systemic effects	289 mg/m ³ (worker)
	Long-term exposure - systemic effects	77 mg/m ³ (worker)

78-93-3 butanone

Dermal	Long-term exposure - systemic effects	1161 mg/kg bw/day (worker) ECHA database
Inhalative	Long-term exposure - systemic effects	600 mg/m ³ (worker) ECHA database

78-83-1 butanol

Inhalative	Long-term exposure - local effects	310 mg/m ³ (worker)
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100-41-4 ethylbenzene

Dermal	Acute - short-term exposure - local effects	293 mg/kg bw/day (worker)
	Long-term exposure - systemic effects	180 mg/kg bw/day (worker)
Inhalative	Long-term exposure - systemic effects	77 mg/m ³ (worker)

· PNECs

1330-20-7 xylene

PNEC 6,58 mg/l (STP)
 0,237 mg/l (aqua, freshwater)
 0,327 mg/l (aqua, intermittent releases)
 0,327 mg/l (aqua, marine water)
 12,46 mg/kg (sediment marine water)

78-93-3 butanone

PNEC 709 mg/l (STP)
 ECHA database
 55,8 mg/l (aqua, freshwater)
 ECHA database

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55,8 mg/l (aqua, intermittent releases)
ECHA database

55,8 mg/l (aqua, marine water)
ECHA database

284,7 mg/kg (sediment marine water)
ECHA database

284,74 mg/kg (sediment freshwater)
ECHA database

22,5 mg/kg (soil)
ECHA database

78-83-1 butanol

PNEC 10 mg/l (STP)

0,4 mg/l (aqua, freshwater)

11 mg/l (aqua, intermittent releases)

0,04 mg/l (aqua, marine water)

0,152 mg/kg (aqua, marine water)

1,52 mg/kg (sediment freshwater)

0,0699 mg/kg (soil)

100-41-4 ethylbenzene

PNEC 9,6 mg/l (STP)

0,1 mg/l (aqua, freshwater)

0,1 mg/l (aqua, intermittent releases)

0,01 mg/l (aqua, marine water)

13,7 mg/kg (sediment freshwater)

2,68 mg/kg (soil)

· **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.

Do not inhale gases / fumes / aerosols.

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.

Filter A.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to 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.

Fluorocarbon rubber gloves (Viton)

· **Penetration time of glove material**Thickness of the gloves ≥ 0.7 mm (xylenes)Value for the permeation: Level ≥ 480 min (xylenes)

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

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 · Body protection: Solvent resistant protective clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:	Fluid
Colour:	Transparent
Odour:	Characteristic

· pH-value at 20 °C: 2

· Change in condition

Boiling point/Boiling range: 80 °C

· Flash point: 3 °C

· Ignition temperature: 500 °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:	1,1 Vol %
Upper:	7,0 Vol %

· Vapour pressure at 20 °C: 6,7 hPa

· Density at 20 °C: 0,92 g/cm³

· Solubility in / Miscibility with

water: Slightly soluble.

· Viscosity:

Dynamic:	Not determined.
Kinematic at 20 °C:	± 200 s (DIN 53211/4)

· Solvent content:

Organic solvents:	45,4 %
VOC (EC)	45,40 %

Solids content:	54,6 %
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· 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 Reacts with strong oxidising agents.

· 10.4 Conditions to avoid High temperatures.

· 10.5 Incompatible materials:

Acids.
Alkaline products.
Oxidizing agents.

· 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

· 11.1 Information on toxicological effects

· Acute toxicity:

· LD/LC50 values relevant for classification:

1330-20-7 xylene

Oral LD50 3523 mg/kg (rat)

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Dermal LD50 12126 mg/kg bw (rabbit)
 Inhalative LC50/4h 27124 mg/m³ (rat)

78-93-3 butanone

Oral LD50 >2500 mg/kg (rat)
 Dermal LD50 >5000 mg/kg (rabbit)
 Inhalative LC50/4h 20 mg/l (rat)

78-83-1 butanol

Oral LD50 3350 mg/kg (rat)
 Dermal LD50 >2000 mg/kg (rabbit)
 Inhalative LC50/4h >8000 ppm (rat)

112-24-3 3,6-diazaoctanethylenediamin

Oral LD50 2500 mg/kg (rat)
 Dermal LD50 805 mg/kg (rabbit)

100-41-4 ethylbenzene

Oral LD50 3500 mg/kg (rat)
 Dermal LD50 17800 mg/kg (rabbit)

· **Primary irritant effect:**

· on the skin: Irritant to skin and mucous membranes.

· on the eye: No irritating effect.

· **Sensitisation:** Sensitisation 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:

Harmful
 Irritant

SECTION 12: Ecological information

· **12.1 Toxicity**· **Aquatic toxicity:****1330-20-7 xylene**

EC50/48h 7,4 mg/l (daphnia magna)
 IC50 1-10 mg/l (TISBE Marine copepod)
 1-10 mg/l (algae)
 > 100 mg/l (bacteria)
 1-10 mg/l (fish)
 NOAEL 0,1-1 mg/l (TISBE Marine copepod)
 1-10 mg/l (fish)

78-93-3 butanone

EC50/48h >5000 mg/l (daphnia magna)
 LC50/96h >2500 mg/l (pimphales promelas)

78-83-1 butanol

EC50/48h 1100 mg/l (daphnia magna)
 EC50/72h 1799 mg/l (algae)
 LC50/96h 1430 mg/l (pimphales promelas)

100-41-4 ethylbenzene

EC50/24h >100 mg/l (daphnia magna)

· **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.· **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.

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- 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.
 - 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.
 - Recommended cleansing agents: Water, if necessary together with cleansing agents.
-

SECTION 14: Transport information

- 14.1 UN-Number
- ADR,ADN, IMDG, IATA UN1263
- 14.2 UN proper shipping name
- ADR/ADN 1263 PAINT
- IMDG, IATA PAINT
- 14.3 Transport hazard class(es)
- ADR,ADN, IMDG, IATA



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

- ADR/ADN
 - Limited quantities (LQ) 5L
 - Transport category 2
 - Tunnel restriction code D/E
 - UN "Model Regulation": UN1263, PAINT, 3, II
-

SECTION 15: Regulatory information

- 15.1 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.
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.



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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.
 H304 May be fatal if swallowed and enters airways.
 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.
 H335 May cause respiratory irritation.
 H336 May cause drowsiness or dizziness.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H412 Harmful to aquatic life with long lasting effects.

R10 Flammable.
 R11 Highly flammable.
 R20 Harmful by inhalation.
 R20/21 Harmful by inhalation and in contact with skin.
 R21 Harmful in contact with skin.
 R34 Causes burns.
 R36 Irritating to eyes.
 R36/37/38 Irritating to eyes, respiratory system and skin.
 R37/38 Irritating to respiratory system and skin.
 R41 Risk of serious damage to eyes.
 R43 May cause sensitisation by skin contact.
 R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
 R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
 R65 Harmful: may cause lung damage if swallowed.
 R66 Repeated exposure may cause skin dryness or cracking.
 R67 Vapours may cause drowsiness and dizziness.

Contact: Dhr. B. Peters

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
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 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
 Flam. Liq. 2: Flammable liquids, Hazard Category 2
 Flam. Liq. 3: Flammable liquids, Hazard Category 3
 Acute Tox. 4: Acute toxicity, Hazard Category 4
 Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
 Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
 Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
 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
 Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3