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

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

1.1 Product identifier
• Trade name: Crystalbond 509
• Article number: 51-1625-0379
1.2 Relevant identified uses of the substance or mixture and uses advised against
Mounting adhesive polymer.
• Application of the substance / the preparation: No data available
• **1.3 Details of the supplier of the safety data sheet Supplier:**
Oxford Instruments NanoAnalysis
Halifax Rd, High Wycombe HP12 3SE
United Kingdom
Tel: +44 (0) 1494 442255
• Further information obtainable from: Technical Support

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture
• Classification according to Regulation (EC) No 1272/2008 flame
Flam. Sol. 1 H228 Flammable solid.
• 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
• Signal word Danger
• Hazard statements
H228 Flammable solid. • Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240 Ground and bond container and receiving equipment.
P241 Use explosion-proof [electrical/ventilating/lighting] equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.
• 2.3 Other hazards
• Results of PBT and vPvB assessment
• PBT: 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: 85-44-9
EINECS: 201-607-5
Phthalic Anhydride
Resp. Sens. 1, H334; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Irrit. 2, H315; Skin Sens. 1, H317; STOT SE 3, H335
60-90%
CAS: 107-21-1
EINECS: 203-473-3
Ethylene Glycol
Acute Tox. 4, H302
10-40%

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SECTION 3 : CONTINUED

Additional information:
For the wording of the listed hazard phrases refer to section 16.
Emergency overview
Appearance: Clear or clear amber solid.
Immediate effects: ND
Potential health effects
Primary Routes of entry: For product: ND
Signs and Symptoms of Overexposure: ND
Eyes: NA
Skin: If in molten state, exposure to skin will cause severe thermal burn.
Ingestion: NA
Inhalation: NA
Potential environmental effects
See Ecological Information (Section 12)
Chronic Exposure: ND
Chemical Listed As Carcinogen Or Potential Carcinogen: None.
See Toxicological Information (Section11).

SECTION 4: First Aid Measures

4.1 Description of first aid measures
• After inhalation: NA
• After skin contact: Treat for thermal burn. See physician.
• After eye contact: NA
• After swallowing: If symptoms persist consult doctor.
• 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:
Use fire extinguishing methods suitable to surrounding conditions.
Foam, carbon dioxide, dry powder.
• For safety reasons unsuitable extinguishing agents: Do not use water.
• 5.2 Special hazards arising from the substance or mixture
Flash Point: >262 °C. Method: COC
Hazardous combustion products: Carbon monoxide, carbon dioxide.
DOT Class: None
• 5.3 Advice for firefighters
• Protective equipment: No special measures required

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SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective gloves and glasses.
• **6.2 Environmental precautions:**
Do not allow to enter sewers/ surface or ground water.
Dispose of waste according to Federal, State and Local Regulations.
• 6.3 Methods and material for containment and cleaning up:
Ensure adequate ventilation.
If material is unusable, sweep up and dispose of in a metal container.
• 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: Avoid excessive heat, sparks, open flame.
• Information about fire - and explosion protection:
The dried resin is combustible, similar to wood. Burning dry resin emits dense, black smoke. As latex, material is not combustible.
Protect against electrostatic charges.
• **7.2 Conditions for safe storage,** including any incompatibilities
• Storage:
• Requirements to be met by storerooms and receptacles:
Storage temperature: Room temperature.
• Information about storage in one common storage facility: Not required.
• Further information about storage conditions:
Keep container tightly sealed.
Protect from heat. 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
• Additional information about design of technical facilities:
Ventilation required: Good industrial hygiene practice requires that employee exposure be maintained below the recommended TLV. This is preferably achieved through the provision of adequate ventilation where necessary. Where dust cannot be controlled in this way, personal respiratory protection should be employed.
• Ingredients with limit values that require monitoring at the workplace:
85-44-9 Phthalic Anhydride
WEL Short-term value: 12 mg/m^3
Long-term value: 4 mg/m^3
Sen 107-21-1 Ethylene Glycol
WEL Short-term value: 104** mg/m^3, 40** ppm
Long-term value: 10* 52** mg/m^3, 20** ppm
Sk *particulate **vapour
• Additional information: The lists valid during the making were used as basis.

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SECTION 8: CONTINUED...

• **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 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: Not required.
• Body protection: Care should be taken when in molten state

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
• General Information
• Appearance: Form: Solid, Colour: Amber coloured
• Odour: Odourless
• Odour threshold: Not determined.
• pH-value: Not applicable.
• Change in condition
Melting point/freezing point: 107 ˚C
Initial boiling point and boiling range: >148 ˚C
• Flash point: >262 ˚C • Flammability (solid, gas): Not determined.
• Decomposition temperature: Not determined.
• Auto-ignition temperature: Product is not selfigniting.
• Explosive properties: Not determined.
• Explosion limits:
Lower: Not determined.
Upper: Not determined.
• Vapour pressure at 20 ˚C: 1.1 hPa
• Density at 20 ˚C: 1.35 g/cm^3

SECTION 10: Stability and reactivity

• 10.1 Reactivity No further relevant information available.
• 10.2 Chemical stability Stable.
• Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
• 10.3 Possibility of hazardous reactions No dangerous reactions known.
• 10.4 Conditions to avoid Excessive heat, sparks, open flames.
• 10.5 Incompatible materials: ND
• 10.6 Hazardous decomposition products:
Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.
Hazardous Polymerization: Will not occur.

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SECTION 11: Toxicological information

• 11.1 Information on toxicological effects
• Acute toxicity Based on available data, the classification criteria are not met.
• LD/LC50 values relevant for classification:
85-44-9 Phthalic Anhydride
Oral LD50 4,200 mg/kg (rat)
107-21-1 Ethylene Glycol
Oral LD50 4,700 mg/kg (rat)
Dermal LD50 10,626 mg/kg (rabbit)
• Specific symptoms in biological assay:
• Skin corrosion/irritation Based on available data, the classification criteria are not met.
• Serious eye damage/irritation Based on the data, the classification criteria are not met.
• Respiratory or skin sensitisation Based on the data, the classification criteria are not met.
• Additional toxicological information:
This product does not contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.
• CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
• Germ cell mutagenicity Based on available data, the classification criteria are not met.
• Carcinogenicity Based on available data, the classification criteria are not met.
• Reproductive toxicity Based on available data, the classification criteria are not met.
• STOT-single exposure Based on available data, the classification criteria are not met.
• STOT-repeated exposure Based on available data, the classification criteria are not met

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.
• Additional ecological information: General notes:
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
• 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. Ensure proper disposal compliance with proper authorities before disposal.
• Recommendation: Disposal must be made according to official regulations

SECTION 14: Transport Information

14.1 UN-Number Not regulated
• 14.2 UN proper shipping name Not regulated
• 14.3 Transport hazard class(es) Not regulated
• 14.4 Packing group Not regulated • 14.5 Environmental hazards: Marine pollutant: No
• 14.6 Special precautions for user Not applicable.
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable

SECTION 15: Ecological 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.