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Japan / English

1. PRODUCT AND COMPANY IDENTIFICATIONProduct identifier**Product Name** Crystalbond Mounting Wax**Product Code(s)** 40-8150**(M)SDS Number** 1341381_JOther means of identification**Synonyms** No information available**Registration Number** No information availableRecommended use of the chemical and restrictions on use**Recommended Use** Laboratory Use Only**Uses advised against** No information availableDetails of the supplier of the safety data sheet**Manufacturer** Buehler**Manufacturer Address** Loop-X 6th Floor 3-9-15
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www.buehler.com/Japan**Phone number** +81 (0)3 5439 5077**E-mail Address** info.japan@buehler.comEmergency telephone number

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2. HAZARDS IDENTIFICATIONGHS Classification

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Respiratory sensitization	Category 1
Skin sensitization	Category 1

Specific target organ toxicity (single exposure)	Category 1
Category 1 Central nervous system, Heart, Kidneys, Respiratory system.	
Category 3 Respiratory irritation, Narcotic effects.	
Specific target organ toxicity (repeated exposure)	Category 1
Category 1	
Respiratory system	

Label elements**Signal word****Danger****Hazard statements**

H332 - Harmful if inhaled
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
 H317 - May cause an allergic skin reaction
 H370 - Causes damage to organs
 H370 - Causes damage to the following organs: Central nervous system, Heart, Kidneys, Respiratory system.
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness
 H372 - Causes damage to the following organs through prolonged or repeated exposure: Respiratory system.

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area
 Wash face, hands and any exposed skin thoroughly after handling
 In case of inadequate ventilation wear respiratory protection
 Contaminated work clothing should not be allowed out of the workplace
 Do not breathe dust/fume/gas/mist/vapors/spray
 Do not eat, drink or smoke when using this product
 Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Specific treatment (see supplemental first aid instructions on this label)
 IF exposed or concerned: Call a POISON CENTER or doctor
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 If eye irritation persists: Get medical advice/attention
 IF ON SKIN: Wash with plenty of water and soap
 Take off contaminated clothing and wash it before reuse
 If skin irritation or rash occurs: Get medical advice/attention
 IF INHALED: Remove person to fresh air and keep comfortable for breathing
 If experiencing respiratory symptoms: Call a POISON CENTER or doctor

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other hazards

Not applicable

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical name	Weight-%	Inventory - Japan - Existing and New Chemical Substances (ENCS)	ISHL No.	CAS No
Phthalic anhydride	60 - 90%	(3)-1344	No information available	85-44-9
Ethylene glycol	10 - 40%	(2)-230	No information available	107-21-1

Pollutant Release and Transfer Registry (PRTR)

Not applicable.

Chemical name	Weight-%	Class	Cabinet order number	Relevant substance, conversion factor
Phthalic anhydride 85-44-9	60 - 90%	Class I designated chemical substance		

Industrial Safety and Health Law

ISHL Notifiable Substances - information (safety data sheet) to be supplied; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57-2 and ISHL Ordinance Article 34-2-4)

Chemical name	ISHL Notifiable Substances	Threshold Values (%)
Phthalic anhydride 85-44-9	ISHL Notifiable Substances	0.1
Ethylene glycol 107-21-1	ISHL Notifiable Substances	1

Poisonous and Deleterious Substances Control Law Not applicable

4. FIRST AID MEASURES

First aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Remove to fresh air. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
Skin contact	May cause an allergic skin reaction. If symptoms persist, call a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.
Ingestion	May produce an allergic reaction. Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention.
Symptoms	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives. Burning sensation. Difficulty in breathing.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Use personal protective equipment as required. See section 8 for more information. Avoid breathing dust/fume/gas/mist/vapors/spray.

Note to physicians

May cause sensitization in susceptible persons. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flammable Properties	Not flammable.
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact. May cause sensitization by skin contact.
Hazardous Combustion Products	Carbon oxides.
Special Extinguishing Media	Cool drums with water spray.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.
Other Information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.
Environmental precautions	Prevent further leakage or spillage if safe to do so.
Methods for containment	Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Pick up and transfer to properly labeled containers.
Prevention of secondary hazards	Clean contaminated objects and areas thoroughly observing environmental regulations.
Reference to other sections	See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Handling

Advice on safe handling	Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Take off contaminated clothing and wash before reuse. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust.
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Storage

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.
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Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Avoid breathing dust/fume/gas/mist/vapors/spray.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure guidelines

Chemical name	Japan	ISHL Working Environmental Evaluation Standards - Administrative Control Levels	ACGIH TLV
Phthalic anhydride 85-44-9	Ceiling: 0.33 ppm Ceiling: 2 mg/m ³	-	TWA: 1 ppm
Ethylene glycol 107-21-1	-	-	Ceiling: 100 mg/m ³ aerosol only

Biological occupational exposure limits Not applicable

Engineering controls Showers
Eyewash stations
Ventilation systems.

Personal Protective Equipment

Eye/face protection Wear safety glasses with side shields (or goggles). If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

Hand protection Wear suitable gloves. Impervious gloves.

Respiratory protection No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

Physical state Solid
Appearance Transparent
Odor Odorless
Color No information available
Odor Threshold No information available

<u>Property</u>	<u>Values</u>	<u>Remarks Method</u>
pH	No data available	None known
Melting / freezing point	43 - 48 °C	None known
Boiling point / boiling range	> 100 °C	None known
Flash Point	No data available	None known
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit	No data available	

Lower flammability limit	No data available	
Vapor pressure	No data available	None known
Vapor density	> 1	None known
Relative density	1.31 g/cc	None known
Water Solubility	Insoluble	
Solubility(ies)	No data available	None known
Partition coefficient: n-octanol/water	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
Kinematic viscosity	No data available	None known
Viscosity	No data available	None known
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

10. STABILITY AND REACTIVITY

Reactivity	No information available.
Stability	Stable under normal conditions.
Explosion Data	
Sensitivity to Mechanical Impact	None
Sensitivity to Static Discharge	None
Possibility of hazardous reactions	None under normal processing.
Hazardous Polymerization	Hazardous polymerization does not occur.
Conditions to avoid	Excessive heat.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous Decomposition Products	Carbon oxides.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity**Product Information**

Inhalation	Specific test data for the substance or mixture is not available. May cause sensitization in susceptible persons. (based on components). May cause irritation of respiratory tract. Harmful by inhalation. May cause drowsiness or dizziness.
Eye contact	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.
Skin contact	Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). May cause sensitization by skin contact. Causes skin irritation.

Ingestion

Specific test data for the substance or mixture is not available. May cause additional affects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms

Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing. Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral) 2,186.00 mg/kg
ATEmix (inhalation-dust/mist) 1.50 mg/L

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)
70 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Numerical measures of toxicity - Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Phthalic anhydride 85-44-9	= 1530 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 210 mg/m ³ (Rat) 1 h
Ethylene glycol 107-21-1	= 4700 mg/kg (Rat)	= 10600 mg/kg (Rat) = 9530 µL/kg (Rabbit)	-

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

Classification based on data available for ingredients. Irritating to skin.

Serious eye damage/eye irritation

Classification based on data available for ingredients. Irritating to eyes.

Respiratory or skin sensitization

May cause sensitization by inhalation. May cause sensitization by skin contact.

Germ cell mutagenicity

No information available.

Carcinogenicity

No information available.

STOT - single exposure

Based on the classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from acute exposure. (STOT SE). Causes damage to organs. May cause respiratory irritation. May cause drowsiness or dizziness.

STOT - repeated exposure

No information available.

Target Organ Effects

Respiratory system. Eyes. Skin. Central nervous system (CNS). Kidney. Liver. Heart. Central nervous system (CNS).

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity**Ecotoxicity**

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Ethylene glycol	96h EC50: 6500 - 13000 mg/L (Pseudokirchneriella subcapitata)	96h LC50: = 41000 mg/L (Oncorhynchus mykiss) 96h LC50: 14 - 18 mL/L (Oncorhynchus mykiss) 96h LC50: = 40761 mg/L (Oncorhynchus mykiss) 96h LC50: 40000 - 60000 mg/L (Pimephales promelas) 96h LC50: = 27540 mg/L (Lepomis macrochirus) 96h LC50: = 16000 mg/L (Poecilia reticulata)	EC50 = 10000 mg/L 16 h EC50 = 620 mg/L 30 min EC50 = 620.0 mg/L 30 min	48h EC50: = 46300 mg/L

Persistence and Degradability No information available.

Bioaccumulation

Component Information

Chemical name	Log Pow
Phthalic anhydride	0.73
Ethylene glycol	-1.93

Mobility in soil No information available.

Mobility No information available.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. TRANSPORT INFORMATION

IMDG/IMO NOT REGULATED

ADR NOT REGULATED

IATA NOT REGULATED
Proper Shipping Name NON REGULATED

Japan

Hazard Class N/A

15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixture****National Regulations**Japan**Pollutant Release and Transfer Registry (PRTR)**

Not applicable

Industrial Safety and Health Law**Harmful Substances Whose Names Are to be Indicated on the Label**

Harmful Substances - names to be indicated on the label; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57 and ISHL Ordinance Article 33)

ISHL Notifiable Substances

ISHL Notifiable Substances - information (safety data sheet) to be supplied; Industrial Safety and Health Law enforcement order Table 9 (related to Industrial Safety and Health Law article 57-2 and ISHL Ordinance Article 34-2-4)

Fire Service Law:

Verify that requirements related to using, handling, and storing substances subject to prohibition, authorization or restriction are met

Chemical name	Fire service law group	Hazardous material	Hazard rank
Ethylene glycol 107-21-1	4	Flammable liquids	II III

Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)

The table below indicates ingredients above the cut-off threshold considered as relevant which are listed

Chemical name	Japan - Chemical Substance Control Law (CSCL)
Ethylene glycol 107-21-1	Priority assessment chemical substance

Labor Standards Act

Occupational illnesses caused by chemical substances - Labor Standards Act article 75, Enforcement Ordinance article 35 and Notification Designating Elements and Compounds of Chemical Substances and Occupational Illnesses Table 1-2 item 4-1

Air Pollution Control LawAir pollutants with regulated emissions standards, Air Pollution Control Act article 3
Volatile organic compound per Air Pollution Control Law article 2, paragraph 4**International Regulations****Ozone-depleting substances (ODS)** Not applicable**Persistent Organic Pollutants** Not applicable**Export Notification requirements** Not applicable**International Inventories****TSCA**

Contact supplier for inventory compliance status.

DSL/NDSL

Contact supplier for inventory compliance status.

EINECS/ELINCS

Contact supplier for inventory compliance status.

ENCS

Contact supplier for inventory compliance status.

KECL Contact supplier for inventory compliance status.
PICCS Contact supplier for inventory compliance status.
AICS Contact supplier for inventory compliance status.

Legend**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AICS** - Australian Inventory of Chemical Substances

16. OTHER INFORMATION

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Revision Note No information available

Key or legend to abbreviations and acronyms used in the safety data sheet**Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	-	Skin designation
C	Carcinogen		

Disclaimer

This SDS complies with the requirements of JIS Z 7250:2010 and JIS Z 7252:2009 (Japan). The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



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End of Safety Data Sheet