

MATERIAL SAFETY DATA SHEET

CASTALDO®

SuperCera® Blue Plastic Wax

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|----------|----------------------|-------------------|
| 1 | FIRE HAZARD | HAZARD KEY |
| 1 | HEALTH HAZARD | 4 - SEVERE |
| 0 | REACTIVITY | 3 - SERIOUS |
| | | 2 - MODERATE |
| | | 1 - SLIGHT |
| | | 0 - MINIMAL |

SECTION 2: COMPOSITION INFORMATION

A blend of natural waxes, polymers & oil soluble dye.

As supplied, the component(s) listed below can present physical or health hazards;

| Component | CAS number | OSHA PEL | SARA 13 listed? | Amount (% w/w) |
|-----------|------------|----------|-----------------|----------------|
|-----------|------------|----------|-----------------|----------------|

SECTION 3: HAZARDS IDENTIFICATION

Solid Form

As supplied in the solid form, the material presents a minimal hazard. As with all petroleum based products, care should be taken to avoid unnecessary skin contact. Take care when handling heavy packages. If any product dust is present, avoid inhalation and eye contact and be aware of the risks associated with dust cloud ignition. Pelletized product can present a slip hazard if spilled. Product will burn in a fire and release toxic fumes.

Liquid Form

The product is intended for use in the hot, molten state. Care should be taken to minimize or avoid exposure to product vapors when melting, conditioning, injecting and dewaxing molds. The molten material can cause severe thermal burns if it contacts the eyes and skin.

Potential Health Effects

Ingestion: Not believed to be toxic but may cause discomfort if swallowed.

Skin contact: The product is petroleum based so repeated skin contact may cause irritation and even dermatitis and sensitization in some individuals. Seek medical advice in this situation. Molten product can burn the skin.

Inhalation: Inhalation of solid product dust may lead to respiratory irritation. Inhalation of fumes from molten product can cause respiratory tract irritation, sore throats, dizziness, headache and nausea.

Eye contact: In a finely divided form, i.e. dust or fragments, the product will act as a physical irritant to the eye. Molten product will cause burns to the eye. Fumes from the molten product may irritate the eye.

Chronic / other effects

None known

SECTION 4: FIRST AID MEASURES

Eyes:

Solid product – Flush affected eye with clean running water for at least 10 minutes, holding eyelid open. Seek medical attention if pain/irritation persists.

Molten product - Flush affected eye with clean running water for at least 10 minutes, holding eyelid open. Do not remove adhering material. Seek medical attention immediately.

Skin:

Solid product – Wash affected areas with mild soap and water. Remove contaminated clothing and launder before re-use.

Molten product – Cool affected areas with running water to remove heat. In general, do not remove adhering material - it may be necessary to cut through material surrounding a limb to prevent a tourniquet effect. Seek medical attention urgently.

Ingestion: Do not induce vomiting. Seek medical attention in severe cases.

Inhalation: Remove from exposure to fresh air. If breathing is difficult, a trained individual may administer oxygen. If the casualty is not breathing, a trained person should begin CPR. Get medical attention immediately.

SECTION 5: FIRE FIGHTING MEASURES

Combustion: If heated above its flash point (over 185°C/ 365°F, COC) in the presence of air, this product will support combustion. The product contains hydrocarbon waxes and will burn on a suitable hot, organic substrate, i.e. wood, packaging, etc.

Fire Fighting: If the fire is small and it is safe to do so, fight the fire from a safe distance, using the correct extinguisher and taking extreme care to avoid exposure to combustion products. Do not fight a large fire – obtain immediate professional assistance. Do not enter an enclosed area containing a product fire without proper protective equipment and training in its use, i.e. self contained breathing apparatus.

Extinguishing Media: Use water based foam, dry powder or carbon dioxide extinguishers. The use of liquid water is not recommended since molten wax floats and will disperse.

Combustion Products: Intense heat, smoke, carbon dioxide, carbon monoxide and complex hydrocarbons.

Other Hazards: As with most solid organic compounds, a high dust concentration of this product may form an explosive atmosphere, subject to ignition by heat and static discharge. This is an unlikely scenario but users should be aware of the risk.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Solid Product: Sweep up the spilled material. If it is clean, place in a suitable container for use. If it is contaminated, collect in a suitable container for disposal. Note that pelletized product can travel some distance when spilled. Prevent the spillage entering drainage channels. Spilled pellets also present a significant slip hazard.

Molten Product: Wear appropriate personal protective equipment – boots, eye protection & heat resistant gloves. Attempt to contain the spill by making dams with sand or earth. Water can be used to cool a spill but take extreme care when doing so. Allow the spill to solidify before collecting the material for disposal. Do not let molten product enter drainage channels.

SECTION 7: HANDLING AND STORAGE

Storage: Keep product in its original packaging until used. Ideally, store indoors under dry conditions, avoiding extremes of temperature (keep between 5 & 30°C / 41 & 86°F) and direct sunlight. Keep away from sources of ignition, oxidizing agents and other chemicals.

Handling: Do not eat, drink or smoke while using this product. Use only in a well ventilated area and avoid breathing fumes and dust. Avoid skin and eye contact. Avoid heating above 100°C (212°F) during normal processing (excepting dewax operations).

SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTION

The following may be released from the product in the molten state. Avoid overheating the material above 100°C (212°F).

Occupational Exposure limits:

| SUBSTANCE | ACGIH TLV | OSHA PEL | CAS No. |
|-------------------|---------------------------|---------------------|----------------|
| Paraffin wax fume | 2 mg/m ³ (TWA) | 2 mg/m ³ | 8002-74-2 |

Engineering Control Measures:

The product should only be used in well ventilated areas. Efficient local exhaust ventilation, to minimize exposure to fume & vapor from the molten product, is strongly recommended, especially in wax melting and pattern assembly areas. Local exhaust ventilation is also recommended when breaking slabs/handling pellets to minimize exposure to product dust. Mechanical methods to minimize exposure must take precedence over personal protective measures.

Personal Protective Equipment:

Eyes & Face: Protective goggles should be worn when handling slabs and pellets, when injecting the product and when assembling patterns. A full face shield is recommended for operations involving the transfer of molten product, i.e. refilling press reservoirs.

Skin: The use of impermeable gloves is recommended to avoid long term skin exposure to the product (and other materials used in the pattern making process, release agents, for instance).

General: A good standard of industrial hygiene should be practiced when using this product. Wash hands thoroughly before eating, drinking or smoking. Contaminated clothing should be laundered before reuse.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES (AS SUPPLIED)

Appearance: Waxy solid

Form: Pellets & slabs

Color: Blue

Odor (hot): Waxy, characteristic

Drop melting point: 71 – 77°C (160 - 170°F)

Specific gravity: 0.95

Solubility: Insoluble in water, soluble in common organic solvents.

Flash point: >185°C (365 °F), Cleveland Open Cup

SECTION 10: STABILITY & REACTIVITY

Stability: Stable as supplied. The product is organic, however, and will be subject to surface oxidation – use the product within 12 months of purchase. Avoid holding the product in the molten state when not in use. Excessive thermal exposure will degrade the product. Avoid temperatures above 100°C (212°F) where possible. Stir the molten product at all times to keep the solid filler in suspension.

Polymerization: Will not occur under normal processing conditions.

Reactivity: Not reactive under normal processing conditions.

Avoid: Sources of ignition, oxidizing agents, solvents.

SECTION 11: TOXICOLOGICAL INFORMATION

As supplied, the product is not considered to be toxic. In the molten state, the product will release potentially harmful vapors – care must be taken to observe applicable exposure limits. If the precautions advised elsewhere in the document are observed, the product presents little toxicological hazard.

SECTION 12: ECOLOGICAL INFORMATION

No specific ecological information has been determined for this product. However, the product is insoluble in water and should not pose a serious threat to the environment.

Users of the product should, however, ensure that it is stored, handled and disposed of in such a manner that it is not released to the environment. Spent material from the flash fire furnace or autoclave must therefore be stored in such a manner as to prevent environmental contamination, either by solid product or rain water run-off from it.

SECTION 13: DISPOSAL INFORMATION

Dispose of used product, unwanted product and related packaging in strict accordance with Federal, State, Local or Provincial regulations. Wherever possible, spent material should be returned to the manufacturer, or other qualified reprocessor, for reclamation.

SECTION 14: TRANSPORTATION INFORMATION

This product is non-hazardous for transportation and is not regulated.

SECTION 15: REGULATORY INFORMATION

No other specific information available at present.

SECTION 16: OTHER INFORMATION

As of the date issued, the information and recommendations contained herein are believed to be accurate and reliable to our best knowledge.. However, this information is furnished without warranty, expressed or implied as to its accuracy or reliability. We only warrant to you, but to no other persons, that the product referenced herein shall conform to our quality assurance specifications for this product on the date of shipment to you. Since the conditions of handling and use are beyond our control, we expressly disclaim all other warranties of merchantability and fitness for a particular purpose. We make no guarantee of results or assume no responsibility for damages incurred by the use of this product. The data on this sheet relates only to the specific material designated herein. We assume no legal responsibility for use or reliance on this data. Any technical advice, information or recommendation given to you is given gratis, without any warranty whatsoever as to the advice, information or recommendation given or the results obtained. You shall assume all risks and be solely responsible for the results obtained from the storage, handling or use of this product, whether alone or in combination with other substances. Under no circumstances shall we be liable for any economic consequences (including lost profits or savings) or incidental damages, even if we are informed of their possibility, exemplary damages, regardless of the form or action, whether in contract or tort, including sole or joint negligence and strict liability.