MIROTONE

Technical Bulletin

SAFE HANDLING OF ULTRAVIOLET (UV) CURED COATINGS

UV curable coatings are applied by dedicated automatic lines, custom built for the purpose of applying these coatings. UV curable coatings are cured by a reaction to UV light activating photoinitiators and commencing the curing process.

These UV curable products contain reactive resins, diluents and photoinitiators. As with other types of coatings, care should be taken during handling and storage. The coatings are normally very high in solids and many do not contain solvents, however the main concerns are with any raw materials used that may be skin irritants and with any stray UV light that may cause eye damage.

The primary reference documents are:-

- The **Label**
- The **MSDS (material safety data sheet)**
- The **Mirotone full guide on Safe Handling of UV products** (this bulletin is extracted from data contained in a more detailed document)

SAFE HANDLING GUIDELINES

- When using a UV coating wear personal protective equipment (nitrile gloves, safety goggles, protective clothing etc) as applicable to the product. (See the msds for more detail.) Wear nitrile gloves (not natural rubber gloves or PVC gloves).
- Read finished product MSDS for product-specific handling instructions prior to applying the coating.
- Keep the work area clean and tidy. Re-lid open drums to prevent stray UV light curing the coating in the can.
- Use only in a ventilated area (if spraying- use a spray booth complying with AS4114)
- If inhalation risk exists (eg spraying) the operator must wear an air supplied positive pressure demand full face mask complying with AS1716 and use in accordance with AS1715.

PERSONAL CARE / FIRST AID

- Wash hands with a mild soap and water thoroughly after handling. Do NOT use abrasive soaps.
- Do not smoke.
- Do not eat nor drink when handling UV products.

- In case of contact with hands, gently wipe off, use an oil or emulsion hand cleaner to remove coating then wash with plenty of water and soap. Do **NOT** use solvents.
- In case of contact with eyes, flush with water for 15 minutes holding the eyes open and call a physician if irritation persists.
- If irritation or symptoms of sensitisation occur get medical attention without delay.
- Preclude from exposure personnel with sensitisation problems (those with dermatitis, asthma, chemical sensitisation or similar)
- Remove contaminated clothing. Discard if badly contaminated or the contamination cannot be removed through laundering.
- Staff should be careful to avoid spilling these products.
- If contact with the skin causes any reaction, ensure that the affected areas are not subjected to sunlight. Use light covered clothing of UV barrier cream to prevent penetrating burns.
- Block off any stray light escaping from the curing unit with impervious barriers. Wear UV filter protective goggles. Do **NOT** look at the UV light whilst turned on.

SPILLAGES

- In case of spillage or leaks, absorb the liquid in a dry clay-type absorbent material.
- When the absorbent is saturated, it should be sealed into marked containers and disposed of by incineration or burial in an approved landfill according to local disposal regulations. Under no circumstances should it be allowed to directly enter drains, sewers or waterways.
- The spillage area should be thoroughly cleaned with soap (or an appropriate detergent) and water; the soapy wastewater should be subjected to biological effluent treatment or incineration.

STORAGE:

The risk of spontaneous polymerisation (resin reacting) may occur if stored in hot conditions. Keep container closed when not in use and stored in a cool place below 40$_{o}$C out of direct sunlight. Store away from incompatible materials (strong acids, strong alkalis, ammonia, amines and oxidisers) and foodstuffs. UV curable products contain reactive materials and may polymerise spontaneously if not stored under the recommended conditions. Rotate all stock to prevent aging (use oldest stock first). Periodically check all drums for signs of pressure build up (polymerisation) or for leaks.

Care is taken in selection of the ingredients for Mirotone UV products to ensure that the products can be handled by our staff and customers safely. This safe handling guide has been put together to create an awareness of good handling practices in using UV curable products and raw materials. Consult Mirotone's Technical Service Department to confirm a MIROCURE coating system that is most suitable for your requirements.

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