Product Safety Assessment

METALINK™ U Catalyst


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Product Overview
- METALINK™ U catalyst is a solid aromatic diisocyanate specialty chemical supplied as an odorless, white powder. For further details, see Product Description.
- METALINK U catalyst is used as a crosslinker in single-component heat-curing polyurethane adhesives, sealants, and coatings. It may also be used as an adhesion promoter for synthetic fibers or fabrics. For further details, see Product Uses.
- Exposure can occur either in facilities that manufacture METALINK U catalyst or in the various industrial or manufacturing facilities that use this product. METALINK U catalyst is not sold directly to consumers, but it is used as an adhesion promoter in fabrics and fiber applications, so consumers may come into contact with it. Exposure to cured and/or dried product is not considered to present a risk to consumers. For further details, see Exposure Potential.
- Eye contact may cause serious irritation. Skin contact may cause irritation or an allergic reaction. Inhalation of product dust may cause respiratory irritation, allergy or asthma symptoms, breathing difficulties, and may be fatal. These products may cause skin and respiratory sensitization. For further details, see Health Information and request the relevant Safety Data Sheet from the Dow Customer Information Group.
- If released to the environment, METALINK™ U Catalyst would react with water to form insoluble polyureas which are expected to slowly degrade in the environment. Due to their high molecular weight, these polyureas do not accumulate in the food chain and are moderately toxic to aquatic organisms on an acute basis, with long lasting effects. For further details, see Environmental Information.
- METALINK U catalyst is stable under recommended storage and normal use conditions. For further details, see Physical Hazard Information.

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Product Safety Assessment: METALINK™ U Catalyst

Manufacture of Product

- **Locations** – METALINK™ U catalyst is manufactured in Europe by ACIMA™ Specialty Chemicals, a wholly owned subsidiary of The Dow Chemical Company.
- **Process** – METALINK U catalyst is produced using proprietary processes and materials.

Product Description

METALINK™ U catalyst is a solid aromatic diisocyanate specialty chemical that contains two free isocyanate groups and is supplied as a white powder with practically no odor.

Product Uses

METALINK™ U catalyst is used in the following applications:

- As a latent crosslinker in single-component heat-curing adhesives, sealants, coatings, and potting compounds
- As an adhesion promoter for plasticized PVC, such as plastisols and laminating compounds
- As an adhesion promoter for synthetic fibers and fabrics, belt and tire cords, and for rubber-to-fabric bonding

Exposure Potential

METALINK™ U catalyst is used in the production of industrial and consumer products. Based on the uses for this product, individuals could be exposed through:

- **Workplace exposure** – Exposure can occur either in facilities that manufacture METALINK U catalyst or in the various industrial or manufacturing facilities that use this product. It is produced, distributed, and stored in closed systems. Those working with METALINK U catalyst in manufacturing operations could be exposed during maintenance, sampling, testing, application, or other procedures. Each manufacturing facility should have a thorough training program for employees and appropriate work processes, ventilation, and safety equipment in place to limit exposure. See Health Information.
- **Consumer exposure to products containing METALINK U catalyst** – Dow does not sell METALINK U catalyst for direct consumer use. It is used in the production of adhesives, sealants, fibers, and fabrics applications, but will not be present anymore in cured forms of such products. Exposure to cured and/or dried product is not considered to present a risk to consumers. See Health Information.
- **Environmental releases** – In the event of a spill, the focus is on containing the spill to prevent contamination of soil, surface water, or groundwater. Respiratory protection is necessary for cleaning up spills and leaks. For small spills, METALINK U Catalyst should be contained with inert materials such as sand or earth. If released to the environment, this product would react with water to form insoluble polyureas which would tend to float on water and ultimately bind to soil, suspended solids, and sediment. These polyureas would likely be removed in wastewater treatment facilities by adsorption to biosolids. See Environmental, Health, and Physical Hazard Information.
- **Large release** – Industrial spills or releases are infrequent and generally contained. If a large spill does occur, the product should be captured, collected, and reprocessed or disposed of according to applicable governmental requirements. Ventilate the area. Try to prevent the material from entering drains or water courses. Do not contaminate surface water. Evacuate personnel to safe areas. Floor may be slippery; use care to avoid falling. Contain spills immediately with inert materials such as sand, earth. Transfer solids and liquid diking material to separate, suitable containers for recovery or disposal. See Environmental, Health, and Physical Hazard Information.
- **In case of fire** – Use foam, carbon-dioxide extinguishers, or dry-chemical extinguishers to fight the fire. Do not allow runoff from fire fighting to enter drains or water courses. Closed containers may explode when heated or when contents are contaminated with water. Wear self-contained breathing apparatus. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Collect contaminated fire extinguishing water separately – this must not be discharged into drains. Follow emergency procedures carefully. See Environmental, Health, and Physical Hazard Information.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.
Health Information

**Eye contact** – Contact may cause severe eye irritation. May cause corneal injury.

**Skin contact** – Contact may cause skin irritation and allergic skin reaction. Prolonged skin contact is unlikely to result in absorption of harmful amounts.

**Inhalation** – Inhalation may cause severe respiratory irritation, fluid in the lungs, permanent decrease in lung function, neurologic disorders, cholinesterase depression, and gastrointestinal stress. Inhalation may cause allergy or asthma symptoms, and breathing difficulties, and may be fatal.

**Ingestion** – These products have low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause gastrointestinal effects.

**Repeated Exposure** – Repeated skin contact may cause severe irritation with local redness and discomfort. Repeated skin contact may cause sensitization and/or an allergic skin reaction.

Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization. Inhalation of this product may cause sensitization, including allergy or asthma symptoms, including coughing, difficult breathing, and tightness in the chest, and effects may be delayed. Occasionally, breathing difficulties may be life-threatening. Re-exposure to extremely low isocyanate concentrations may cause an allergic respiratory reaction in already sensitized individuals.

**Other** – In laboratory studies, slight effects were observed in the fetus of animals at doses which caused toxic effects to the mother. Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.

Environmental Information

Release of METALINK™ U Catalyst to the atmosphere is unlikely due to its low volatility. If released to the aquatic or terrestrial environment, this product would react with water to form insoluble polyureas. This reaction limits the mobility/bioavailability/toxicity of this product in soil and water environment.

Although the polyureas are essentially non-biodegradable, they are expected to slowly degrade in the environment, including degradation by physical action or by exposure to sunlight. The polyureas will likely be removed in wastewater treatment facilities by adsorption to biosolids.

Due to their high molecular weight, the polyureas will not accumulate in the food chain. This product is moderately toxic ($LC_{50}/EC_{50}$ between 1 and 10 mg/L) to aquatic organisms on an acute basis, with long-lasting effects.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.

Physical Hazard Information

METALINK™ U catalyst is stable under recommended storage and use conditions. Keep this product away from moisture, heat, or flame. Thermal decomposition may yield isocyanate monomers and hydrogen cyanide. Containers may be hazardous when empty. Avoid contact with water, strong acids, strong bases, and strong oxidizers.

For more information, request the relevant Safety Data Sheet from the Dow Customer Information Group.
Regulatory Information
Regulations may exist that govern the manufacture, sale, transportation, use, and/or disposal of METALINK™ U catalyst. These regulations may vary by city, state, country, or geographic region. Information may be found by consulting the relevant Safety Data Sheet or Contact Us.

Additional Information
- Request Safety Data Sheets and Technical Data Sheets from the Dow Customer Information Group (www.dow.com/assistance/dowcig.htm)
- Contact Us (www.dow.com/assistance/dowcig.htm)

For more business information about METALINK U catalyst, contact the Dow Customer Information Group at www.dow.com/assistance/dowcig.htm.

References
NOTICES

As part of its 2015 Sustainability Goals, Dow has committed to make publicly available safety assessments for its products globally. This product safety assessment is intended to give general information about the chemical (or categories of chemicals) addressed. It is not intended to provide an in-depth discussion of health and safety information. Additional information is available through the relevant Safety Data Sheet, which should be consulted before use of the chemical. This product safety assessment does not replace required communication documents such as the Safety Data Sheet.

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