



JOHNSON FINE CHEMICAL CO., LTD.

No.14, 33 Rd., Taichung Industrial Park, Taichung 407021, Taiwan

TEL: +886-4-23596260 FAX: +886-4-23598551 www.johnson-fine.com

HARTTIVE MSI

Monofunctional isocyanate

Description

Stabilizer for clear and pigmented moisture-curing one –component paint systems.

Specifications

Appearance: low-viscosity colorless liquid

Active ingredient content: approx.(98±2)%

Density@20°C: approx.1.29g/cm³ DIN51757

Properties

HARDTIVE MSI is used as a stabilizer for moisture-curing systems. Use of HARDTIVE MSI prevents undesirable premature reaction of the paint system.

Applications

HARTTIVE MSI is used in moisture-curing one-component paints.

Mixing and addition rate

HARTTIVE MSI reacts with water, giving off carbon dioxide and resulting in the formation of reaction products which are soluble in conventional paint formulations. Approximately 12g of the stabilizer is theoretically required for reaction with 1g of water. Experience has shown, however, that the reaction is more effective in the presence of a surplus of HARTTIVE MSI. Compatibility with paint binders should



always be tested beforehand.

Storage

HARTTIVE MSI is moisture-sensitive and should therefore always be stored in tightly sealed original containers. **Shelf-life: 6 months**

Safety

The product is a highly reactive compound and therefore needs to be handled with particular care.

The safety data sheet should be heeded. It contains information on labeling, transport and storage as well as handling, product safety and ecological effects. Please refer also to information sheet M004 entitled, Reizende Stoffe, atzende Stoffe (Irritant substances, corrosive substances) issued by the German Berufsgenossenschaft Chemie.

The product reacts spontaneously and very vigorously with water, alcohols, amines, acids and alkalis. Such substances must therefore not be poured into vessels already containing the product. The reaction with water yields carbon dioxide at quantities of 1.3 liters per gram of water. The sudden formation of large amounts of gas in a container, into which water has penetrated, may cause the container to explode, even if the seal has already been broken.



Care must there for be taken during transport, storage and handling of HARTTIVE MSI to prevent the penetration of moisture into the containers.

Once added to the paint as a drying agent, existing guideline on the application of paint containing solvents must be applied. Additional precaution are unnecessarily provided that the addition rate proportional to the water content does not exceed about 5% of the total formulation.

HARTTIVE MSI is a very reactive compound. Although not very toxic, it causes severe irritation of skin and mucous membranes. It is therefore essential to prevent exposure of skin, eyes and airways to undiluted HARTTIVE MSI. Safety goggles and protective gloves must be worn and the inhalation of vapors and aerosols must be avoided when handling the product. To protect the skin, preventive application of an appropriate barrier preparation (e.g. Arretil L manufactured by stockhausen) is recommended. Breathing apparatus is necessary in inadequately ventilated work-places. Use of an air-fed hood or a face mask with an A2-P2 combination filter is advisable.

Contaminated areas of skin should be washed immediately with plenty of soap and water. Contaminated clothing should be removed immediately. In the event of contact with the product, the eyes should be rinsed carefully and thoroughly with water and



medical advice should be sought. In the event of inhalation of quite large amounts of vapor or dust of product any resulting irritation of the airways should be treated symptomatically (in the same way as any symptoms of irritation caused by inhalation of irritant substances). Medical advice must always be sought.

Product residues can be disposed of in accordance with the following guidelines:

- I. Containers must be emptied as completely as possible. They can't be rinsed out with water.
- II. Pools of HARTTIVE MSI on the floor or on a lab bench can be carefully removed with water or by covering them with the paste-like materials described below.

III. Dosage

	Solution	Material
Tertiary butyl alcohol	15parts by weight	4parts by weight
Petrolcum	65parts by weight	10parts by weight
Butyl acetate	20parts by weight	4parts by weight
Sand	——	42parts by weight
Diatomaceous earth (industrial grade)	——	30parts by weight
Sawdust	——	10parts by weight
	100parts by weight	100parts by weight

100g of the solution is sufficient to react with approx 42g of HARTTIVE MSI.

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IV. Empty containers should be cleaned using the solution described below or by being left to stand without lids in a safe place for several days. Since monofunctional isocyanate is highly reactive with water, it will gradually react with atmospheric moisture to form a solid white substance.

Package

Iron drum with plastics insert, each contains 20 kgs.