

Material Safety Data Sheet

According to EC directive 2001/58/EC

Product name:	Aka-Cure, Slow	Page:	1/5
Last revised date:	20-04-2005	Print date:	20-04-2005
Art.-no.:	8560	Template:	1.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

Product name:	Aka-Cure, slow		
Application:	Epoxy curing agent	Container size:	300 ml
Supplier:	AKASEL ApS Vanløse Sand 2 DK-4370 St. Merløse Tel +45 57 84 05 01 Fax +45 57 84 06 01		

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name:	CAS-No.:	%:	Hazard classification:	Notes:
Triethylenetetramine	112-24-3	100	Xn; R21; C, R34; R43; R52/53	

3. HAZARDS IDENTIFICATION

Corrosive. Harmful in contact with skin. Causes burns. May cause sensitization by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. FIRST-AID MEASURES

Inhalation:	Move into fresh air and keep at rest
Skin contact:	Immediate, continued and thorough washing in flowing water for at least 30 minutes is imperative while removing contaminated clothing. Prompt medical consultation is essential. Wash clothing before reuse. Destroy contaminated leather items.
Eye contact:	Immediately flush with plenty of water for at least 30 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Continue flushing during transport to hospital. Bring along these instructions.
Ingestion:	Do not induce vomiting. Give one glass (ca. 2.5 dL) of water or milk if available and transport to medical facility. Do not give anything by mouth to an unconscious person.
Note to Physician	Due to irritant properties, swallowing may result in burns/ulceration of mouth, stomach and lower gastrointestinal tract with subsequent stricture. Aspiration of vomitus may cause lung injury. Suggest

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Note to Physician endotracheal/esophageal control if lavage is done. May cause respiratory sensitization or asthma-like symptoms. Bronchodilators, expectorants, and antitussives may be of help. Excessive exposure may aggravate preexisting asthma. If burn is present, treat as any thermal burn, after decontamination.No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

Extinguishing media:	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog. Cool containers exposed to heat with water spray and remove container if no risk is involved
Hazardous Combustion Products:	Combustion products may include and are not limited to: Nitrogen oxides. Carbon dioxide. Carbon monoxide.
Protective equipment	Use air-supplied respirator during fire fighting

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Wear adequate personal protective equipment, see Section 8, EXPOSURE CONTROLS/PERSONAL PROTECTION.
Environmental precautions:	Contain liquid to prevent contamination of soil, surface water or ground water.
Methods for cleaning up:	use non-combustible absorbent material/sand and shovel into appropriate containers.

7. HANDLING AND STORAGE

Safe handling advice:	Avoid eye and skin contact. Avoid breathing vapours. Avoid breathing mists. Avoid generation of aerosols.
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8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures:	Engineering controls should be used whenever feasible to maintain concentrations below acceptable exposure limits, including but not limited to enclosures, local ventilation, and dilution ventilation. Ensure eyewash station is available
Respiratory equipment:	In situations when air-purifying respirators are currently recommended, either organic vapour (A2) or ammonia (K2) filters should be used.

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Whenever aerosols may be present a particles filter (P2) should be used as a pre-filter. Also a combined cartridge A2/P2 or K2/P2 can be used.

Hand protection: Use chemical resistant gloves classified under standard EN 374: Protective gloves against chemicals and micro-organisms.

Eye protection: Risk of contact: Wear goggles/face shield

Skin protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, gloves, boots, apron, or full body-suit will depend on operation. Safety shower should be located in immediate work area. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. Items which cannot be decontaminated, such as shoes, belts and watchbands, should be removed and disposed of properly.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Light transparent liquid
Odour:	Ammonia like
pH:	>12
Boiling point:	280°C
Flash point:	118°C
Flammable limits:	Lower > 1.6 vol%, Upper <3.6 vol%
Relative density:	0.98 (Water = 1.0)
Solubility:	Fully soluble in water.

10. STABILITY AND REACTIVITY

Stability:	Stable under normal handling and storage conditions, see Section 7, Handling and Storage.
Conditions/ materials to avoid:	Acrylates. Aldehydes. Ketones. Halogenated organic compounds. Oxidising agents. Acids. Copper and its alloys. Mixture with these materials will result in a temperature and/or pressure increase.

11. TOXICOLOGICAL INFORMATION

Inhalation:	May cause allergic respiratory response. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).
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Skin contact: Brief contact may cause severe skin burns. Symptoms may include pain, severe local redness and tissue damage.
Skin contact has caused allergic skin reactions in humans.

Eye contact: May cause pain disproportionate to the level of irritation to eye tissues. May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Ingestion: Low toxicity if swallowed. The oral LD50 for rats is 2500-4340 mg/kg. Ingestion may cause gastrointestinal irritation or ulceration. Ingestion may cause burns of mouth and throat. Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Specific effects:

12. ECOLOGICAL INFORMATION

Mobility: Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Log octanol/water partition coefficient (log Pow) is estimated using a structural fragment method to be -2.65. Henry's Law Constant (H) is estimated to be 5.21E-10 atm.m³/mol. Potential for mobility in soil is very high (Koc between 0 and 50). Soil organic carbon/water partition coefficient (Koc) is estimated to be 4.1-310.

Degradability: Material is expected to biodegrade only very slowly (in the environment). Fails to pass OECD/EC tests for ready biodegradability. Biodegradation reached in Closed Bottle Test after 20 days: 0 %. Biodegradation reached in Modified Zahn-Wellens/EMPA Test (OECD Test No. 302 B) after 28 days: 0 %.

Ecotoxicity: Material is toxic to aquatic organisms (LC50/EC50/IC50 between 1 and 10 mg/L in most sensitive species). Growth inhibition EC50 for green algae *Selenastrum capricornutum* is 3.7 mg/L. Acute LC50 for water flea *Daphnia magna* is 12-40 mg/L. Acute LC50 for fathead minnow (*Pimephales promelas*) is 330-495 mg/L. Acute LC50 for golden orfe (*Leuciscus idus*) is 200-500 mg/L. Growth inhibition EC50 in algae *Scenedesmus* species is 2.5 mg/L. The 16

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hour growth inhibition EC50 in bacteria is 680 mg/L. May increase pH of aqueous systems to more than 10 which may be toxic to aquatic organisms.

13. DISPOSAL CONSIDERATIONS

Dispose of waste and residues according to agreement with local authorities..

14. TRANSPORT INFORMATION

UN-number:	2259	Proper shipping name:	TRIETHYLENETETRAMINE
Sea (IMDG):	Class: 8		
	EmS: 8-05		
Land (RID/ADR):	Class: 8		
Air (ICAO/IATA):	Class: 8	Pack Instr. Passenger : 808	Pack Instr. Cargo : 812:

15. REGULATORY INFORMATION

Labelling:



R/S sentence(s):

Xn; R21; C, R34; R43; R52/53

Specific provisions: TSCA: Listed.

16. OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.