

Product information

ANCAMINE® K54

Curing Agent

DESCRIPTION

Ancamine K54 curing agent is a technical grade of tris-(dimethylaminomethyl) phenol—a versatile Lewis Base catalyst for curing epoxy resins. It is used both as a curing agent (adhesives applications) and as an activator for other curing agents including amidoamines, amine adducts and polyamides (coatings, castings, flooring, concrete and adhesives applications). It is also the preferred catalyst for blends of liquid epoxy resin and liquid polysulfides for body solder, sealant and concrete adhesives applications. Also, it is a highly efficient catalyst for epoxy resins cured with polycarboxylic acids and anhydrides (casting and laminate applications), as well as for the isocyanate/polyol and isocyanate trimerization reactions (isocyanurate foam applications).

TYPICAL PROPERTIES

Property	Value	Unit	Method
Appearance	Amber liquid		
Colour	6	Gardner	
Viscosity @ 77°F	200	cP	
Specific Gravity @ 77°F	0.980		
Density @ 77°F	8.1	lb/gal	
Flash Point	284	°F	closed cup
Free Water (Dean & Stark)	0.5	%	
Typical Purity	97	%	
Recommended Use Level	1 - 15	phr	
as an accelerator	0.5 - 5	phr	
for liquid polysulfide/epoxy cure catalysis	5 - 15	phr	

STORAGE AND HANDLING

Refer to the Safety Data Sheet on Ancamine K54 curing agent.

SHELF LIFE

At least 24 months from the date of manufacture in the original sealed container at ambient temperature. Store away from excessive heat and humidity in tightly closed containers.

TYPICAL CURE SCHEDULE

1 hour at 176°F¹

TYPICAL HANDLING PROPERTIES

Property	Value	Unit	Method
Cure Schedule ¹ ; Catalyst — 10 phr			
Pot Life (25g @ 77°F)	40	min	
Heat Deflection Temperature	194	°F	ASTM D648-264 psi

(1) This is a multi-purpose curative that finds use in a variety of systems. Specific instructions for cure schedules should be obtained from Evonik.

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Safety Data Sheet

Version 4.6

Revision Date 01/08/2017

SDS Number 300000008412

Print Date 01/21/2017

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : ANCAMINE[®] K54 Curing Agent

Product Use Description : Curing Agent, Catalyst

Manufacturer/Importer/Distributor : Evonik Corporation - Division PMD
299 Jefferson Road
Parsippany, NJ 07054
www.evonik.com

Telephone : 973-929-8060 Corporate
1-800-345-3148 Chemicals Cust Serv
1-800-752-1597 Gases/Electronics Cust Serv

Emergency telephone number (24h) : 800-523-9374 USA
+1 610 481 7711 International

2. HAZARDS IDENTIFICATION

GHS classification

Skin corrosion - Category 1C
Serious Eye Damage - Category 1
Skin sensitization - Category 1

GHS label elements

Hazard pictograms/symbols



Signal Word: Danger

Hazard Statements:

H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.

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Precautionary Statements:

- Prevention : P261:Avoid breathing dust/fume/gas/mist/vapours/spray.
P264:Wash hands thoroughly after handling.
P280:Wear protective gloves/protective clothing/eye protection/face protection.
- Response : P301+P330+P331 :IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353 :IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 :IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310 :Immediately call a POISON CENTRE/doctor.
P333+P313 :If skin irritation or rash occurs: Get medical advice/attention.
P363 :Wash contaminated clothing before reuse.
- Disposal : P501:Disposal of contents/container to be specified in accordance with regulations.

Hazards not otherwise classified

Corrosive
Components of the product may affect the nervous system.
Harmful if swallowed.
Harmful in contact with skin.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS Number	Concentration (Weight)
Tris-2,4,6-(dimethylaminomethyl)phenol	90-72-2	< 90 %
Bis(dimethylaminomethyl)phenol	71074-89-0	< 15 %

CHEMICAL FAMILY: Mannich Base

4. FIRST AID MEASURES

- General advice : Seek medical advice. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.
- Eye contact : Hold eyelids apart, initiate and maintain gentle and continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour.
- Skin contact : Immediately remove contaminated clothing, and any extraneous chemical, if possible to do so without delay. Initiate and maintain continuous irrigation until the patient receives medical care. If medical care is not promptly available, continue to irrigate for one hour. Cover wound with sterile dressing.

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Ingestion	: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Prevent aspiration of vomit. Turn victim's head to the side.
Inhalation	: Move to fresh air.
Inhalation	: No data available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	: Alcohol-resistant foam. Carbon dioxide (CO ₂). Dry chemical. Dry sand. Limestone powder.
Specific hazards	: Incomplete combustion may form carbon monoxide. May generate ammonia gas. May generate toxic nitrogen oxide gases. Burning produces noxious and toxic fumes. Downwind personnel must be evacuated.
Special protective equipment for fire-fighters	: Avoid contact with the skin. A face shield should be worn. Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
Further information	: Do not allow run-off from firefighting to enter drains or water courses., Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures	: Wear suitable protective clothing, gloves and eye/face protection. Use self-contained breathing apparatus and chemically protective clothing. Evacuate personnel to safe areas.
Environmental precautions	: Construct a dike to prevent spreading.
Methods for cleaning up	: Call Emergency Response number for advice. Approach suspected leak areas with caution. Place in appropriate chemical waste container.
Additional advice	: If possible, stop flow of product.

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Emergency showers and eye wash stations should be readily accessible. Adhere to work practice rules established by government regulations. Use personal protective equipment. When using, do not eat, drink or smoke.

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Storage

Do not store near acids. Store in steel containers preferably located outdoors, above ground, and surrounded by dikes to contain spills or leaks. Keep containers tightly closed in a dry, cool and well-ventilated place.

Technical measures/Precautions

Do not store in reactive metal containers.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures

Provide readily accessible eye wash stations and safety showers.

Provide natural or explosion-proof ventilation adequate to ensure concentrations are kept below exposure limits.

Personal protective equipment

Respiratory protection : Not required for properly ventilated areas.

Hand protection : Butyl-rubber
Nitrile rubber.
Neoprene gloves.
Impervious gloves.
Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection : Full face shield with goggles underneath.

Skin and body protection : Slicker Suit.
Impervious clothing.
Full rubber suit (rain gear).
Rubber or plastic boots.

Special instructions for protection and hygiene : Discard contaminated leather articles. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash hands at the end of each workshift and before eating, smoking or using the toilet. Provide readily accessible eye wash stations and safety showers.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Liquid. Light yellow.

Odor : Amine-like.

Odor threshold : No data available.

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pH	: 11.3
Melting point/range	: -4 °F (-20 °C)
Boiling point/range	: > 212 °F (> 100 °C)
Flash point	: 300 °F (148.89 °C)
Evaporation rate	: No data available.
Flammability (solid, gas)	: Not applicable.
Upper/lower explosion/flammability limit	: Not applicable.
Vapor pressure	: < 0.01 mmHg at 70 °F (21 °C)
Water solubility	: 850 g/l
Relative vapor density	: Not applicable.
Relative density	: 0.97 (water = 1)
Partition coefficient (n-octanol/water)	: 0.219
Auto-ignition temperature	: No data available.
Decomposition temperature	: No data available.
Viscosity	: No data available.
Molecular Weight	: No data available.
Density	: 60.555 lb/ft3 (0.97 g/cm3) at 70 °F (21 °C)

10. STABILITY AND REACTIVITY

Chemical Stability	: Stable under normal conditions.
Conditions to avoid	: No data available.
Materials to avoid	: Organic acids (i.e. acetic acid, citric acid etc.). Mineral acids. Sodium hypochlorite. Product slowly corrodes copper, aluminum, zinc and galvanized surfaces. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.

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Oxidizing agents.

Hazardous decomposition products : Nitric acid.
Ammonia
Nitrogen oxides (NOx).
Nitrogen oxide can react with water vapors to form corrosive nitric acid.
Carbon monoxide.
Carbon dioxide (CO2).

Possibility of hazardous Reactions/Reactivity : No data available.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Likely routes of exposure

Effects on Eye : Corneal edema may give rise to a perception of "blue haze" or "fog" around lights. Exposed individuals may see rings around bright lights. This effect is temporary and has no known residual effect. Product vapor can cause glaucopsia (corneal edema) when absorbed into the tissue of the eye from the atmosphere. Causes eye burns. May cause blindness.

Effects on Skin : Causes skin burns. If absorbed through the skin, may cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. Harmful in contact with skin.

Inhalation Effects : Can cause severe eye, skin and respiratory tract burns. May cause central nervous system effects, such as headache, nausea, dizziness, confusion, breathing difficulties. Severe cases of overexposure can result in respiratory failure.

Ingestion Effects : If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach. Harmful if swallowed.

Symptoms : No data available.

Acute toxicity

Acute Oral Toxicity : LD50 : 2,169 mg/kg Species : Rat.

Inhalation : No data is available on the product itself.

Acute Dermal Toxicity : No data is available on the product itself.

Skin corrosion/irritation : Corrosive to the skin of a rabbit., Corrosive in an in vitro test.

Serious eye damage/eye irritation : Severe eye irritation., Corrosive to the eyes of a rabbit.

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Sensitization. : Dermal sensitization to this product or component has been seen in some humans., The results of a test on guinea pigs showed this substance to be a weak skin sensitizer.

Chronic toxicity or effects from long term exposures

Carcinogenicity : No data available.

Reproductive toxicity : No data is available on the product itself.

Germ cell mutagenicity : No evidence of mutagenic activity was observed in a bacterial mutation assay. Chromosome Aberration Assay: Negative (Activated and Nonactivated)

Specific target organ systemic toxicity (single exposure) : No data available.

Specific target organ systemic toxicity (repeated exposure) : No data available.

Aspiration hazard : No data available.

Delayed and Immediate Effects and Chronic Effects from Short and Long Term Exposure

This product contains no listed carcinogens according to IARC, ACGIH, NTP and/or OSHA in concentrations of 0.1 percent or greater. Subchronic exposure of this material or component in test animals has caused abnormalities in the following organ(s): Central nervous system.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Aquatic toxicity : LC50 (24 h) : 222 mg/l Species : Rainbow trout (*Oncorhynchus mykiss*).
LC100 (96 h) : 240 mg/l Species : Rainbow trout (*Oncorhynchus mykiss*).
LC0 (96 h) : 180 mg/l Species : Rainbow trout (*Oncorhynchus mykiss*).
LC50 (24 h) : 249 mg/l Species : Carp (*Cyprinus carpio*).
LC50 (96 h) : 175 mg/l Species : Carp (*Cyprinus carpio*).
EC50 (96 h) : 718 mg/l Species : Grass shrimp (*Palaemonetes*).
EC100 (96 h) : 1,000 mg/l Species : Mud crab (*Neopanope*).
EC0 (96 h) : 750 mg/l Species : Mud crab (*Neopanope*).
EC50 (72 h) : 84 mg/l Species : *Scenedesmus subspicatus*
NOEC (72 h) : 6.25 mg/l Species : *Scenedesmus subspicatus*

Toxicity to other organisms : No data available.

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Persistence and degradability

Biodegradability	: According to the results of tests of biodegradability this product is not readily biodegradable.
Mobility	: No data available.
Bioaccumulation	: No data is available on the product itself.

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products	: Contact supplier if guidance is required.
Contaminated packaging	: Dispose of container and unused contents in accordance with federal, state, and local requirements.

14. TRANSPORT INFORMATION

DOT

UN/ID No.	: UN2735
Proper shipping name	: Amines, liquid, corrosive, n.o.s., (Tris-2,4,6-(dimethylaminomethyl)phenol, Bis(dimethylaminomethyl)phenol)
Class or Division	: 8
Packing group	: III
Label(s)	: 8
Marine Pollutant	: No

IATA

UN/ID No.	: UN2735
Proper shipping name	: Amines, liquid, corrosive, n.o.s., (Tris-2,4,6-(dimethylaminomethyl)phenol, Bis(dimethylaminomethyl)phenol)
Class or Division	: 8
Packing group	: III
Label(s)	: 8
Marine Pollutant	: No

IMDG

UN/ID No.	: UN2735
Proper shipping name	: AMINES, LIQUID, CORROSIVE, N.O.S., (Tris-2,4,6-(dimethylaminomethyl)phenol, Bis(dimethylaminomethyl)phenol)
Class or Division	: 8
Packing group	: III
Label(s)	: 8
Marine Pollutant	: No

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TDG

UN/ID No. : UN2735
Proper shipping name : AMINES, LIQUID, CORROSIVE, N.O.S., (Tris-2,4,6-(dimethylaminomethyl)phenol, Bis(dimethylaminomethyl)phenol)
Class or Division : 8
Packing group : III
Label(s) : 8
Marine Pollutant : No

Further Information

The transportation information is not intended to convey all specific regulatory data relating to this material. For complete transportation information, contact customer service.

15. REGULATORY INFORMATION

Toxic Substance Control Act (TSCA) 12(b) Component(s):

None.

Country	Regulatory list	Notification
USA	TSCA	Included on Inventory.
EU	EINECS	Included on EINECS inventory or polymer substance, monomers included on EINECS inventory or no longer polymer.
Canada	DSL	Included on Inventory.
Australia	AICS	Included on Inventory.
Japan	ENCS	Included on Inventory.
South Korea	ECL	Included on Inventory.
China	SEPA	Included on Inventory.
Philippines	PICCS	Included on Inventory.

EPA SARA Title III Section 312 (40 CFR 370) Hazard Classification
Acute Health Hazard

EPA SARA Title III Section 313 (40 CFR 372) Component(s) above 'de minimus' level
None.

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to State of California to cause cancer, birth defects or any other harm.

16. OTHER INFORMATION

HMIS Rating

9/10

Evonik Corporation

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Health : 3
Flammability : 1
Physical hazard : 0

Prepared by : Evonik, Product Regulatory Department

Telephone : 973-929-8060 Corporate
1-800-345-3148 Chemicals Cust Serv
1-800-752-1597 Gases/Electronics Cust Serv

Preparation Date : 01/21/2017

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