

Niax* catalyst A-230

SAFETY DATA SHEET

1 PRODUCT AND COMPANY IDENTIFICATION

Product name: Niax* catalyst A-230

Recommended use: Used in the manufacturing of polyurethane foam.

Limitations on use: For industrial use only.

Manufacturer/Importer/Distributor Information : Momentive Performance Materials (Thailand) Limited
1/2 Moo 4 (Asia Industrial Estate), 21130
Thailand

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Responsible Department : Product Stewardship & Compliance

2 HAZARDS IDENTIFICATION

GHS classification:

Physical Hazards:

Flammable liquids Category 3

Health Hazards:

Acute toxicity (Oral) Category 4

Skin Corrosion/Irritation Category 1

Serious Eye Damage/Eye Irritation Category 1

Specific Target Organ Toxicity - Single Exposure Category 3(respiratory tract irritation)

GHS label elements:

Symbol(s):



Signal Word: Danger

Hazard Statement(s): Flammable liquid and vapor.
Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.

Niax* catalyst A-230

Precautionary Statement

Prevention:

Wear protective gloves. Wear eye protection/face protection. Wear protective clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Keep container tightly closed. Use only outdoors or in a well-ventilated area. Avoid breathing vapors. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

Response:

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Storage:

Store locked up. Store in a well-ventilated place. Keep cool.

Disposal:

Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in classification:

Primary hazards: No data available.

Specific hazards: No data available.

3 COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature: Tertiary Amine / Glycol Mixture

Substance or Preparation:

Mixtures

Hazardous ingredients:

| Chemical Identity | CAS number | Concentration* |
|---|--------------|----------------|
| Ethanol, 2-(dimethylamino)- | 108-01-0 | 10 - <30% |
| Tertiary Amine | Trade secret | 10 - <30% |
| N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) | 3033-62-3 | 10 - <30% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Trade secret information: ** A specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4 FIRST AID MEASURES

Inhalation:

Move the exposed person to fresh air at once. If respiratory problems, artificial respiration/oxygen. Get medical attention immediately.

Niax* catalyst A-230

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| Eye contact: | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist. |
| Skin Contact: | Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Wash contaminated clothing before reuse. Get medical attention immediately. |
| Ingestion | Give one or two glasses of water if patient is alert and able to swallow. Seek immediate medical attention. If medical attention will be delayed, contact a Regional Poison Centre or emergency medical professional regarding the use of activated charcoal/syrup of ipecac. Do not induce vomiting. |

No data available.

5 FIRE-FIGHTING MEASURES

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| Extinguishing media: | Alochol-resistant foam Carbon dioxide Dry chemical. |
| Unsuitable extinguishing media: | Water |
| Specific hazard arising from the chemical: | This material may produce a floating fire hazard. |
| Special fire fighting procedures: | Do not use water jet as an extinguisher, as this will spread the fire. |
| Special protective action for fire fighters: | Wear self-contained breathing apparatus and protective clothing. |

6 ACCIDENTAL RELEASE MEASURES

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|---|---|
| Personal precautions, protective equipment and emergency procedures: | Avoid contact with eyes, skin, and clothing. Avoid contact with liquid and vapors. Use personal protective equipment. |
| Environmental Precautions: | Do not allow runoff to sewer, waterway or ground. |
| Methods and material for containment and cleaning up: | Absorb spillage with suitable absorbent material. Shovel up and place in a container for salvage or disposal. |
| Notification Procedures: | Caution: Contaminated surfaces may be slippery. Remove sources of ignition. |

7 HANDLING AND STORAGE

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| Precautions for safe handling: | Sensitivity to static discharge is expected; material has a flash point below 200 F. |
| Condition for safe storage, including any incompatibilities: | Keep container tightly closed. Keep away from heat and flame. Keep away from acids. |

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

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| Appropriated engineering control measures: | No data available. |
|---|--------------------|

Niax* catalyst A-230

Occupational Exposure Limits:

None known.

Personal protective equipment (ppe)

Respiratory Protection: Wear self-contained breathing apparatus and protective clothing.

Eye Protection: Face shield

Hand Protection: No data available.

Skin Protection: Long sleeves Safety shoes

Hygiene measures:

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance

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| Physical state: | liquid |
| Form: | liquid |
| Color: | Pale yellow |
| Odor: | amine like |
| Odor Threshold: | No data available. |
| pH: | No data available. |
| Freezing point: | -65 °C |
| Boiling Point: | 156 °C (1,013 hPa) |
| Flash Point: | 54 °C (ASTM D 93) |
| Evaporation Rate: | < 1 |
| Flammability (solid, gas): | No data available. |
| Flammability Limit - Upper (%): | 5.1 %(V) (BDMAEE) |
| Flammability Limit - Lower (%): | 1 %(V) (BDMAEE) |
| Vapor pressure: | 75.8 hPa (38 °C) |

| | |
|-------------------------------|---------------------------------|
| Vapor density (air=1): | > 1 |
| Density: | 0.965 g/cm ³ (25 °C) |
| Relative density: | 0.965 (25 °C) |

Solubility(ies)

| | |
|---|--------------------|
| Solubility in Water: | Soluble |
| Solubility (other): | No data available. |
| Partition coefficient (n-octanol/water) Log Pow: | No data available. |

| | |
|-----------------------------------|---|
| Autoignition Temperature: | No data available. |
| Decomposition Temperature: | No decomposition if stored and applied as directed. |
| SADT: | No data available. |
| Viscosity, dynamic: | No data available. |
| Viscosity, kinematic: | No data available. |
| Explosive properties: | No data available. |
| Oxidizing properties: | No data available. |

10 STABILITY AND REACTIVITY

Incompatible Materials: Avoid contact with: Acids. Halogens. Strong oxidizing agents.

Niax* catalyst A-230

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| Chemical Stability: | Material is stable under normal conditions. |
| Possibility of hazardous reactions: | Hazardous polymerisation does not occur. |
| Hazardous Decomposition Products: | In case of fire, gives off (emits): Carbon oxides Nitrogen Oxides Carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract. |

11 TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

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|----------------------|--------------------|
| Inhalation: | No data available. |
| Ingestion: | No data available. |
| Skin Contact: | No data available. |
| Eye contact: | No data available. |

Information on toxicological effects

Acute toxicity

Oral

Product: LD 50 (Rat): 677 mg/kg

Dermal

Product: LD 50 (Rat): 235 mg/kg

Inhalation

Product: LC50 (Rat, 6 h): 1.088 mg/l Toxicity following inhalation exposure of vapor is directly related to the relative humidity of the atmosphere. At typical ambient humidity (i.e., >=50%), mild irritation to the respiratory tract and eyes is anticipated. At low humidity (<50%), more severe irritation and systemic toxicity is expected. At low humidity (< 50%), respiratory and eye irritation are expected to be more severe.

Repeated dose toxicity

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

Skin Corrosion/Irritation:

Product: (Rabbit): Corrosive

Serious Eye Damage/Eye Irritation:

Product: (Rabbit): Corrosive

Respiratory or Skin Sensitization:

Product: No data available.

Niax* catalyst A-230

Germ Cell Mutagenicity

In vitro

Product: Overall weight of evidence:: negative

In vivo

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- No data available.

Ethanol, 2-(dimethylamino)- No data available.

1,4- No data available.

Diazabicyclo[2.2.2]octaneTertiary Amine

N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine)N,N,N',N'-

Tetramethyl-2,2'-oxybis(ethylamine)

No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- No data available.

Tertiary Amine No data available.

N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- No data available.

Tertiary Amine No data available.

N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- No data available.

Tertiary Amine No data available.

N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- No data available.

Tertiary Amine No data available.

N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

No data available.

Aspiration Hazard

Product: No data available.

Specified substance(s)

Ethanol, 2-(dimethylamino)- No data available.

Tertiary Amine No data available.

N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

No data available.

Metabolism: No data available.

Niax* catalyst A-230

Other effects: Contains one or more amines which may react with nitrites or other nitrosating agents to form nitrosamines. Some nitrosamines have been shown to be carcinogenic in laboratory animals. Dermal application of Bis(2-dimethylaminoethyl)ether has caused fetotoxic effects in the presence of maternal toxicity.

12 ECOLOGICAL INFORMATION

General information: not applicable

Ecotoxicity

Acute toxicity

Fish

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)-
 Tertiary Amine LC50 (Pimephales promelas, 999 h): 2,745 mg/l
 N,N,N',N'-Tetramethyl-2,2'-
 oxybis(ethylamine) No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)-
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-
 oxybis(ethylamine) No data available.

Chronic Toxicity

Fish

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)-
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-
 oxybis(ethylamine) No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)-
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-
 oxybis(ethylamine) No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)-
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-
 oxybis(ethylamine) LC50 (Algae): 23 mg/l Literature Reference
 EC50 (72 h): 24 mg/l

Persistence and Degradability

Niax* catalyst A-230

Biodegradation

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)- No data available.
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) Literature Reference

BOD/COD Ratio

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)- No data available.
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

Bioaccumulative Potential

Product: No data available.

Specified substance(s):

Ethanol, 2-(dimethylamino)- No data available.
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) Potential to bioaccumulate is low.

Mobility in Soil: No data available.

Known or predicted distribution to environmental compartments

Ethanol, 2-(dimethylamino)- No data available.
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

Results of PBT and vPvB assessment: No data available.

Ethanol, 2-(dimethylamino)- No data available.
 Tertiary Amine No data available.
 N,N,N',N'-Tetramethyl-2,2'-oxybis(ethylamine) No data available.

Other Adverse Effects: No data available.

13 Disposal considerations

Disposal methods: Can be incinerated when in compliance with local regulations.

14 TRANSPORT INFORMATION

ADR/RID

UN Number: UN 2734
 Proper Shipping Name: AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(Tertiary amine / glycol mixture)
 Transport Hazard Class(es): 8
 Subsidiary risk label: —
 Packing Group: II
 Label(s): 8, 3

Niax* catalyst A-230

IMDG - International Maritime Dangerous Goods Code

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|-----------------------------|--|
| UN Number: | UN 2734 |
| UN Proper Shipping Name: | AMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.(Tertiary amine / glycol mixture) |
| Transport Hazard Class(es): | 8 |
| Subsidiary risk label: | – |
| Packing Group: | II |
| Label(s): | 8, 3 |
| Marine Pollutant: | |
| EmS No.: | F-E; S-C |

IATA

| | |
|------------------------------|---|
| UN Number: | UN 2734 |
| Proper Shipping Name: | Amines, liquid, corrosive, flammable, n.o.s.(Tertiary amine / glycol mixture) |
| Transport Hazard Class(es): | |
| Class: | 8 |
| Label(s): | 8, 3 |
| Packing Group: | II |
| Cargo aircraft only Packing | 855 |
| Instructions: | |
| Passenger and cargo aircraft | 855 |
| Packing Instructions: | |
| Limited quantity: | 0.50L |
| Packing Instructions: | Y840 |
| Excepted quantity | E2 |
| Environmental Hazards: | Not regulated. |
| Marine Pollutant: | No |

15 REGULATORY INFORMATION

Applicable regulations:

- Factories Act
- Act on the Control of Transboundary Movements of Hazardous Wastes and their Disposal
- Environmental Public Health Act
- Environmental Public Health (Toxic Industrial Waste) Regulations
- Singapore. Hazardous Substances Control List (Environmental Protection and Management Act, Second Schedule, Part 1, Control of Hazardous Substances)
- Environmental Pollution Control (Hazardous Substances) Regulations

16 OTHER INFORMATION

Inventory Status

| | |
|--|----------------------|
| Australia AICS: | y (positive listing) |
| EU EINECS List: | y (positive listing) |
| Japan (ENCS) List: | y (positive listing) |
| China Inventory of Existing Chemical Substances: | y (positive listing) |
| Korea Existing Chemicals Inv. (KECI): | y (positive listing) |
| Canada DSL Inventory List: | y (positive listing) |
| Canada NDSL Inventory: | n (Negative listing) |
| Philippines PICCS: | y (positive listing) |
| US TSCA Inventory: | y (positive listing) |
| New Zealand Inventory of Chemicals: | n (Negative listing) |
| Taiwan. Taiwan inventory (CSNN): | y (positive listing) |

Niax* catalyst A-230

Revision Information:

Issue Date: 2016/05/13

Disclaimer:

Notice to reader

Unless otherwise specified in section 1, Momentive products are intended for use in the manufacture and/or formulation of products and are not intended for direct consumer use. These products are not intended for long-lasting (> 30 days) implantation, injection or direct ingestion into the human body, nor for use in the manufacture of multiple use contraceptives.

Further Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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