Safety Data Sheet
ELASTOCAST® AD-KA1

Revision date: 2016/12/07
Version: 2.1
(30579168/SDS_GEN_CA/EN)

1. Identification

Product identifier used on the label

ELASTOCAST* AD-KA1

Recommended use of the chemical and restriction on use
Recommended use*: catalyst; polyurethane component
Suitable for use in industrial sector: Polymers industry; chemical industry

* The “Recommended use” identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:
BASF Canada Inc.
100 Milverton Drive
Mississauga, ON L5R 4H1, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

CANUTEC (reverse charges): (613) 996-6666
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Chemical family: amine
Synonyms: Catalyst

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Acute Tox.  4 (oral)  Acute toxicity
Eye Dam./Irrit.  1  Serious eye damage/eye irritation
Skin Corr./Irrit.  2  Skin corrosion/irritation

Label elements

Pictogram:
Signal Word:
Danger

Hazard Statement:
H318 Causes serious eye damage.
H315 Causes skin irritation.
H302 Harmful if swallowed.

Precautionary Statements (Prevention):
P280 Wear protective gloves and eye/face protection.
P270 Do not eat, drink or smoke when using this product.
P264 Wash with plenty of water and soap thoroughly after handling.

Precautionary Statements (Response):
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 CENTER or doctor/physician.
P303 + P352 IF ON SKIN (or hair): Wash with plenty of soap and water.
P330 Rinse mouth.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):
P501 Dispose of contents/container to hazardous or special waste collection point.

Hazards not otherwise classified
No specific dangers known, if the regulations/notes for storage and handling are considered.

According to Controlled Products Regulations (CPR) (SOR/88-66)
Emergency overview

Irritating to eyes and skin.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

<table>
<thead>
<tr>
<th>CAS Number</th>
<th>Weight %</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>280-57-9</td>
<td>&gt;=25.0 - &lt;50.0%</td>
<td>triethylenediamine</td>
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4. First-Aid Measures

Description of first aid measures
General advice:
Remove contaminated clothing. Obtain medical attention. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.

If inhaled:
If difficulties occur after vapour/aerosol has been inhaled, remove to fresh air and seek medical attention. Assist breathing with a ventilator bag or ventilator. If necessary, give oxygen.

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:
Rinse skin immediately with plenty of water for 15 - 20 minutes. Wash affected areas thoroughly with soap and water. Immediate medical attention required.

If in eyes:
Immediate medical attention required. In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Remove contact lenses, if present.

If swallowed:
Immediate medical attention required. Do not induce vomiting due to aspiration hazard. If vomiting occurs, keep head lower than hips to prevent aspiration.

Most important symptoms and effects, both acute and delayed

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Hazards: No hazards anticipated.

Indication of any immediate medical attention and special treatment needed

Note to physician
Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
alcohol-resistant foam, carbon dioxide, dry powder, Dry sand

Special hazards arising from the substance or mixture
Hazards during fire-fighting:
carbon oxides, ammonia oxides, nitrous gases, toxic fumes

Advice for fire-fighters
Protective equipment for fire-fighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.
6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Use personal protective clothing. Wear a self-contained breathing apparatus.

Environmental precautions
Do not empty into drains. Do not discharge into the subsoil/soil.

Methods and material for containment and cleaning up
Spills should be contained, solidified, and placed in suitable containers for disposal.

7. Handling and Storage

Precautions for safe handling
Ensure thorough ventilation of stores and work areas.

Protection against fire and explosion:
No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities
Segregate from acids. Segregate from oxidants. Segregate from foods and animal feeds.

Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), tinned carbon steel (Tinplate), Stainless steel 1.4306 (V2A)

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place. Keep container in a well-ventilated place.

Fire class: liquids or liquefying substances.

Storage stability:
Storage temperature: 60 - 80 °F
Protect against moisture.

8. Exposure Controls/Personal Protection

Advice on system design:
Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed.

Hand protection:
Chemical resistant protective gloves
Eye protection:
Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

Body protection:
Standard work clothes and shoes.

General safety and hygiene measures:
Avoid contact with skin. Handle in accordance with good industrial hygiene and safety practice. Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapours/mists. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form: liquid
Odour: amine-like, moderate odour
Odour threshold: No applicable information available.
Colour: colourless
pH value: 11
Melting point: < -20 °C
Boiling point: > 194 - 204 °C (1 ATM)
Sublimation point: No applicable information available.
Flash point: > 110 °C (Unspecified)
Flammability: not readily ignited
Lower explosion limit: For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit: For liquids not relevant for classification and labelling.
Autoignition: 410 °C (DIN 51794)
Vapour pressure: 1 mbar (25 °C)
Density: 1.025 g/cm³ (25 °C)
Relative density: No applicable information available.
Vapour density: 4.37
Partitioning coefficient n-octanol/water (log Pow): No applicable information available.
Self-ignition temperature: 322 °C
Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic: 100 mPa.s (75 °F)
Viscosity, kinematic: No applicable information available.
Solubility in water: miscible
Solubility (quantitative): No applicable information available.
Solubility (qualitative): No applicable information available.
Evaporation rate: < 0.02 (20 °C)
Other Information: If necessary, information on other physical and chemical parameters is indicated in this section.
10. Stability and Reactivity

**Reactivity**
No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals:
No corrosive effect on metal.

Oxidizing properties:
not fire-propagating

**Chemical stability**
The product is stable if stored and handled as prescribed/indicated.

**Possibility of hazardous reactions**
Strong exothermic reaction with acids. Reacts with peroxides.

**Conditions to avoid**
Avoid extreme temperatures.

**Incompatible materials**
zinc, acids, oxidizing agents, chemically active metals, hypochlorites, peroxides, dehydrating agents
copper
oxidizing agents, brass

**Hazardous decomposition products**

Decomposition products:
Hazardous decomposition products: nitrous gases, nitrogen oxides, carbon oxides, aldehydes, hydrocarbons

Thermal decomposition:
No decomposition if stored and handled as prescribed/indicated.

11. Toxicological information

**Primary routes of exposure**
Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

**Acute Toxicity/Effects**

**Acute toxicity**
Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic after a single skin contact. Virtually nontoxic by inhalation.

**Oral**

*Information on: triethylenediamine*
*Type of value: LD50*
*Species: rat (male)*
*Value: 700 mg/kg (other)*
Inhalation
Species: mouse
Value: 0.9 mg/l (IRT)
Exposure time: 1 h
No effects.

Dermal
No applicable information available.

Assessment other acute effects
Assessment of STOT single:
Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Irritation / corrosion
Assessment of irritating effects: Irritating to eyes, respiratory system and skin. May cause severe damage to the eyes. Skin contact causes irritation.

Sensitization
Assessment of sensitization: The chemical structure does not suggest a sensitizing effect.

Aspiration Hazard
No aspiration hazard expected.

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: Repeated exposure to the substance by dermal administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by inhalative administration leads to effects similar to those found after single exposure. Repeated exposure to the substance by oral administration leads to effects similar to those found after single exposure.

Genetic toxicity
Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect.

Carcinogenicity
Assessment of carcinogenicity: No data available concerning carcinogenic effects. Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.

Reproductive toxicity
Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect.

Teratogenicity
Assessment of teratogenicity: The chemical structure does not suggest a specific alert for such an effect.

Other Information
No experimental evidence available for genotoxicity in vitro (Ames test negative). Together with nitrosating agents (f. i. nitrates, nitrogen oxides) nitrosamines may be formed under certain conditions. Nitrosamines showed a carcinogenic effect in animal experiment.

Symptoms of Exposure
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.

Medical conditions aggravated by overexposure
Individuals with pre-existing diseases of the kidney may have increased susceptibility to excessive exposures. Individuals with allergic history or pre-existing dermatitis should use extra precautions when handling this product.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms.

Aquatic toxicity

Information on: triethylenediamine
Assessment of aquatic toxicity:
There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

Information on: triethylenediamine
LC0 (96 h) > 100 mg/l, Cyprinus carpio (OECD Guideline 203, static)
Nominal values (confirmed by concentration control analytics) Limit concentration test only (LIMIT test).
LC50 (96 h) 681 mg/l, Leuciscus idus (DIN 38412 Part 15, static)
The details of the toxic effect relate to the nominal concentration. The product will cause changes in the pH value of the test system. The result refers to an unneutralized sample. After neutralization, it is no longer toxic.

Aquatic invertebrates

Information on: triethylenediamine
EC50 (48 h) > 100 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)
The statement of the toxic effect relates to the analytically determined concentration. Limit concentration test only (LIMIT test).

Aquatic plants

Information on: triethylenediamine
EC50 (72 h) 180 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration.
EC10 (72 h) 79 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)
The details of the toxic effect relate to the nominal concentration.

Microorganisms/Effect on activated sludge
Toxicity to microorganisms

Information on: triethylenediamine
DIN 38412 Part 8 aquatic bacterium/EC50 (17 h): 356 mg/l
The details of the toxic effect relate to the nominal concentration.

Persistence and degradability

Assessment biodegradation and elimination (H2O)
At environmentally relevant purification plant concentrations of <1mg/l the elimination of the product from water is good.

Elimination information

Poorly biodegradable.

Elimination information

Information on: triethylenediamine
7 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic)

Bioaccumulative potential

Assessment bioaccumulation potential
Does not significantly accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments
Adsorption to solid soil phase is not expected.

Additional information

Adsorbable organically-bound halogen (AOX):
This product contains no organically-bound halogen.

Other ecotoxicological advice:
Do not allow to enter soil, waterways or waste water channels. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

13. Disposal considerations

Waste disposal of substance:
Incinerate in a licensed facility. Dispose of in a licensed facility. Do not discharge substance/product into sewer system.

Container disposal:
Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Refer to 40 CFR § 261.7 (residues of hazardous waste in empty containers). Decontaminate containers prior to disposal. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.
14. Transport Information

Land transport
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released / listed

According to Controlled Products Regulations (CPR) (SOR/88-66)

WHMIS classification:
B3: Combustible Liquid
D2B: Materials Causing Other Toxic Effects - Toxic material

THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
SDS Prepared on: 2016/12/07

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.