

ELAN-Cast® C 110 Hardener

Version 4

Revision Date 06/08/2015

Print Date 06/08/2015

SECTION 1. IDENTIFICATION

Product name : ELAN-Cast® C 110 Hardener

Manufacturer or supplier's details

Company : ELANTAS PDG, INC.
5200 North 2nd Street
St. Louis MO 63147

Telephone : (314) 621-5700

Visit our web site : www.elantas.com

E-mail address : Todd.Thomas@altana.com

Emergency telephone number : INFOTRAC - 1-800-535-5053

Recommended use of the chemical and restrictions on use

Recommended use : Electrical Insulation

Restrictions on use : Refer to Section 15 for any restrictions that may apply

SECTION 2. HAZARDS IDENTIFICATION**GHS Classification**

Skin corrosion : Category 1B

Serious eye damage : Category 1

Skin sensitisation : Category 1

Reproductive toxicity : Category 1B

Effects on or via lactation :

GHS Label element

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H360 May damage fertility or the unborn child.
H362 May cause harm to breast-fed children.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read

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and understood.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

P263 Avoid contact during pregnancy/ while nursing.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P272 Contaminated work clothing should not be allowed out of the workplace.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P281 Use personal protective equipment as required.

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.

P304 + P340 + P310 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/ physician.

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

Storage:

P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature : Aliphatic Amine/Aliphatic Amidoamine/Alkylphenol Blend

Hazardous components

Component	CAS-No.	Concentration (%)
Fatty acid amine	68953-36-6	>= 38 - < 39
Nonylphenol	84852-15-3	>= 23 - < 24
Aliphatic amine	140-31-8	>= 23 - < 24

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Tetraethylenepentamine	112-57-2	>= 10 - < 11
Phenol, 2-nonyl-, branched	91672-41-2	>= 1 - < 2
Triethylenetetramine	112-24-3	>= 1 - < 2
Phenol, dinonyl-	1323-65-5	>= 1 - < 2
Diethylenetriamine	111-40-0	>= 0 - < 1
2-(2-Aminoethylamino)ethanol	111-41-1	>= 0 - < 1

SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : If unconscious place in recovery position and seek medical advice.
If symptoms persist, call a physician.
- In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

SECTION 5. FIREFIGHTING MEASURES

- Unsuitable extinguishing media : High volume water jet
- Specific hazards during : Do not allow run-off from fire fighting to enter drains or water

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- firefighting : courses.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
- Environmental precautions : Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
Dispose of rinse water in accordance with local and national regulations.
Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.
- Conditions for safe storage : Store under conditions specified on the product Technical Data Sheet to maintain product quality.
Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

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SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Tetraethylenepentamine	112-57-2	TWA	5 mg/m ³	US WEEL
Triethylenetetramine	112-24-3	TWA	1 ppm	US WEEL
Diethylenetriamine	111-40-0	TWA	1 ppm	ACGIH
		TWA	1 ppm 4 mg/m ³	OSHA P0

Engineering measures : Use with adequate ventilation.
 All application areas should be ventilated in accordance with applicable OSHA regulations. (29 CFR 1910.94)

Personal protective equipment

Respiratory protection : In the case of vapour formation use a respirator with an approved filter.

Hand protection
 Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
 Tightly fitting safety goggles
 Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : impervious clothing
 Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
 When using do not smoke.
 Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Odour Threshold : No data available

pH : No data available

Melting point/freezing point : No data available

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Initial boiling point and boiling range	: No data available
Flash point	: Greater than 201 °F (94 °C) Method: No information available. Information taken from reference works and the literature.
Evaporation rate	: No data available
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapour pressure	: No data available
Relative vapour density	: No data available
Relative Density/Specific Gravity	: No data available
Density	: 0.9531 g/cm ³ (77 °F (25 °C))
Solubility(ies)	
Water solubility	: No data available
Solubility in other solvents	: No data available
Partition coefficient: n-octanol/water	: No data available
Auto-ignition temperature	: No data available
Thermal decomposition	: No data available
Viscosity	
Viscosity, dynamic	: No data available
Viscosity, kinematic	: Greater than 22 mm ² /s (104 °F (40 °C))

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: No decomposition if stored and applied as directed.
Chemical stability	: No decomposition if stored and applied as directed.
Possibility of hazardous reactions	: No decomposition if stored and applied as directed.

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Conditions to avoid : No data available

Hazardous decomposition products : Carbon monoxide in a fire.
Nitrogen oxides in a fire.
Ammonia

SECTION 11. TOXICOLOGICAL INFORMATION**Information on likely routes of exposure**

Inhalation
Skin contact
Eyes

Acute toxicity**Product:**

Acute oral toxicity : Acute toxicity estimate : 3,189 mg/kg
Method: Calculation method

Acute dermal toxicity : Acute toxicity estimate : 2,237 mg/kg
Method: Calculation method

Components:**84852-15-3 Nonylphenol:**

Acute oral toxicity : LD50 (Rat): 1,882 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 3,160 mg/kg

140-31-8 Aliphatic amine:

Acute oral toxicity : LD50 (Rat, male): 2,097 mg/kg

Acute dermal toxicity : LD50 (Rabbit, male): 866 mg/kg

112-57-2 Tetraethylenepentamine:

Acute oral toxicity : LD50 Oral (Rat): 3,990 mg/kg

Acute dermal toxicity : LD50 (Rat): 660 mg/kg

112-24-3 Triethylenetetramine:

Acute oral toxicity : LD50 (Rat): 2,500 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 805 mg/kg

111-40-0 Diethylenetriamine:

Acute oral toxicity : LD50 (Rat): 1,080 mg/kg

Acute inhalation toxicity : LC50 : Remarks: No data available

Acute dermal toxicity : LD50 (Rabbit): 1,050 mg/kg

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Skin corrosion/irritation**Product:**

Remarks: Extremely corrosive and destructive to tissue.

Components:**84852-15-3 Nonylphenol:**

Result: Corrosive

140-31-8 Aliphatic amine:

Species: Rabbit

Result: Corrosive

112-24-3 Triethylenetetramine:

Method: OECD Test Guideline 435

Result: Corrosive

111-40-0 Diethylenetriamine:

Species: Rabbit

Result: Corrosive to skin

111-41-1 2-(2-Aminoethylamino)ethanol:

Species: Rabbit

Result: Corrosive to skin

Species: Rabbit

Method: OECD Test Guideline 404

Result: Corrosive

GLP: yes

Serious eye damage/eye irritation**Product:**

Remarks: May cause irreversible eye damage.

Components:**84852-15-3 Nonylphenol:**

Result: Severe eye irritation

140-31-8 Aliphatic amine:

Species: Rabbit

Result: Risk of serious damage to eyes.

112-24-3 Triethylenetetramine:

Species: Rabbit

Result: Corrosive to eyes

111-40-0 Diethylenetriamine:

Species: Rabbit

Result: Corrosive to eyes

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111-41-1 2-(2-Aminoethylamino)ethanol:

Species: Rabbit

Result: Corrosive to eyes

Species: Rabbit

Result: Corrosive

Method: OECD Test Guideline 405

Respiratory or skin sensitisation**Product:**

Remarks: Causes sensitisation.

Components:**140-31-8 Aliphatic amine:**

Test Type: Maximisation Test (GPMT)

Exposure routes: Dermal

Species: Guinea pig

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

112-24-3 Triethylenetetramine:

Test Type: Buehler Test

Exposure routes: Dermal

Species: Guinea pig

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

GLP: yes

111-40-0 Diethylenetriamine:

Test Type: Maximisation Test (GPMT)

Exposure routes: Dermal

Species: Guinea pig

Method: OECD Test Guideline 406

Result: May cause sensitisation by skin contact.

GLP: yes

111-41-1 2-(2-Aminoethylamino)ethanol:

Test Type: Mouse Local Lymph Node assay (LLNA)

Exposure routes: Dermal

Species: Mouse

Method: OECD Test Guideline 429

Result: Causes sensitisation.

GLP: yes

Germ cell mutagenicity**Components:****84852-15-3 Nonylphenol:**

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Genotoxicity in vitro : Test Type: Ames test
Result: negative

Carcinogenicity

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Further information
Product:

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION
Ecotoxicity
Components:
140-31-8 Aliphatic amine:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2,190 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 58 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): > 1,000 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

111-40-0 Diethylenetriamine:

Toxicity to fish : LC50 (Poecilia reticulata (guppy)): 430 mg/l

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Exposure time: 96 h
Test Type: semi-static test
GLP: yes

Toxicity to algae : ErC50 (Selenastrum capricornutum (green algae)): 1,164 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 5.6 mg/l
Exposure time: 21 d
End point: Reproduction
Test Type: semi-static test
GLP: yes

111-41-1 2-(2-Aminoethylamino)ethanol:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 640 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 22 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
GLP: yes

Toxicity to algae : ErC50 (Scenedesmus subspicatus): 358 mg/l
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201

Persistence and degradability**Components:****140-31-8 Aliphatic amine:**

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

111-40-0 Diethylenetriamine:

Biodegradability : aerobic
Result: Readily biodegradable
Method: OECD Test Guideline 301D
GLP: yes

111-41-1 2-(2-Aminoethylamino)ethanol:

Biodegradability : aerobic
Result: Readily biodegradable
Method: OECD Test Guideline 301F

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Bioaccumulative potential
Components:
140-31-8 Aliphatic amine:

Partition coefficient: n-octanol/water : log Pow: -1.48 (20 °C)

111-41-1 2-(2-Aminoethylamino)ethanol:

 Bioaccumulation : Species: Cyprinus carpio (Carp)
 Bioconcentration factor (BCF): < 0.2
 Exposure time: 42 d
 Temperature: 25 °C
 Method: OECD Test Guideline 305C

 Partition coefficient: n-octanol/water : log Pow: -1.46 (25 °C)
 pH: 10.6 - 11
 Method: OECD Test Guideline 107

Mobility in soil
Components:
140-31-8 Aliphatic amine:

 Distribution among environmental compartments : Medium: Soil
 Koc: 37000

Other adverse effects

No data available

Product:

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS
Disposal methods

EPA Hazardous Waste Code(s) : D002: Corrosive

 Waste from residues : Do not dispose of waste into sewer.
 Do not contaminate ponds, waterways or ditches with chemical or used container.
 Send to a licensed waste management company.

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Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION**International Regulation****IATA-DGR**

UN/ID No. : UN 1760
Proper shipping name : Corrosive liquid, n.o.s.
(Nonylphenol, Aminoethylpiperazine)
Class : 8
Packing group : III
Labels : Corrosive
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852

IMDG-Code

UN number : UN 1760
Proper shipping name : CORROSIVE LIQUID, N.O.S.
(Nonylphenol, Aminoethylpiperazine)
Class : 8
Packing group : III
Labels : 8
EmS Code : F-A, S-B
Marine pollutant : yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

National Regulations**49 CFR**

UN/ID/NA number : UN 1760
Proper shipping name : Corrosive liquids, n.o.s.
(Nonylphenol, Aminoethylpiperazine)
Class : 8
Packing group : III
Labels : Corrosive
ERG Code : 154
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

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EPCRA - Emergency Planning and Community Right-to-Know Act
CERCLA Reportable Quantity

Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Calculated RQ exceeds reasonably attainable upper limit.

SARA 302 Extremely Hazardous Substances Reportable Quantity

Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Acute Health Hazard
 Chronic Health Hazard

SARA 302 : The following components are subject to reporting levels established by SARA Title III, Section 302:

Phenol	108-95-2	.2 %
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SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489).

Non-volatile (Wt) : Refer to the product technical data sheet for VOC information.

US State Regulations
Massachusetts Right To Know

Aliphatic amine	140-31-8
Tetraethylenepentamine	112-57-2
Triethylenetetramine	112-24-3
Phenol	108-95-2

Pennsylvania Right To Know

Fatty acid amine	68953-36-6
Nonylphenol	84852-15-3
Aliphatic amine	140-31-8
Tetraethylenepentamine	112-57-2

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Triethylenetetramine	112-24-3
Phenol	108-95-2

New Jersey Right To Know

Fatty acid amine	68953-36-6
Nonylphenol	84852-15-3
Aliphatic amine	140-31-8
Tetraethylenepentamine	112-57-2
Phenol, 2-nonyl-, branched	91672-41-2
Triethylenetetramine	112-24-3
Phenol	108-95-2

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : NOT APPLICABLE

California Prop 65

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

The components of this product are reported in the following inventories:

TSCA : We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).

Section 4 / 12(b) : Not applicable

Section 5 : Not applicable

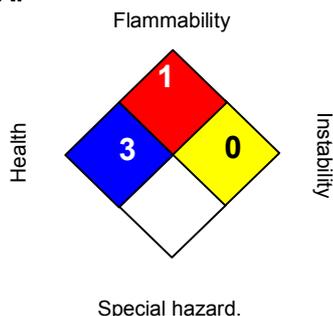
DSL : We certify that all of the components of this product are listed on the DSL.

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SECTION 16. OTHER INFORMATION
Further information
NFPA:

HMIS III:

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

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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.