

**ELAN-Cast® E 471-5LL FR Black Resin**

Version 5

Revision Date 07/24/2015

Print Date 07/24/2015

**SECTION 1. IDENTIFICATION**

Product name : ELAN-Cast® E 471-5LL FR Black Resin

**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](http://www.elantas.com)

E-mail address : [Todd.Thomas@altana.com](mailto: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 irritation : Category 2

Eye irritation : Category 2A

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system)

**GHS Label element**

Hazard pictograms :



Signal word : Warning

Hazard statements : H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

Precautionary statements : **Prevention:**  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of

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the workplace.

P280 Wear eye protection/ face protection.

P280 Wear protective gloves.

**Response:**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

**Storage:**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

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 : Modified epoxy resin

**Hazardous components**

Component	CAS-No.	Concentration (%)
Aluminium hydroxide	21645-51-2	>= 57 - < 58
Epoxy Resin	25068-38-6	>= 30 - < 31
Triphenyl phosphate	115-86-6	>= 11 - < 12

**SECTION 4. FIRST AID MEASURES**

General advice : Move out of dangerous area.  
 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.

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- If symptoms persist, call a physician.
- In case of skin contact : If skin irritation persists, call a physician.  
If on skin, rinse well with water.  
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.  
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 give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.

**SECTION 5. FIREFIGHTING MEASURES**

- Unsuitable extinguishing media : High volume water jet
- Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- 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.  
Absorbent paper or other organic material used for cleaning up resin is a fire hazard, as heat and spontaneous combustion can occur, particularly if the resin was catalyzed. Catalyzed resin can generate hazardous exothermic heat if allowed to polymerize in a mass. All soiled or waste materials must be water soaked, and kept in a closed bin until disposed of.

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**SECTION 7. HANDLING AND STORAGE**

- Advice on safe handling : Avoid formation of aerosol.  
 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.  
 Provide sufficient air exchange and/or exhaust in work rooms.  
 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.  
 The chemical reaction that cures mixed epoxy is exothermic (heat generating). If left to cure in a contained mass, such as in a mixing vessel, it can generate enough heat to melt plastic, burn skin or ignite surrounding combustible materials. The larger or thicker the epoxy mass, the more heat generated.
- 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.

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

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Aluminium hydroxide	21645-51-2	TWA (Respirable fraction)	1 mg/m <sup>3</sup> (Aluminium)	ACGIH
Triphenyl phosphate	115-86-6	TWA	3 mg/m <sup>3</sup>	ACGIH
		TWA	3 mg/m <sup>3</sup>	OSHA Z-1

- Engineering measures** : Use with adequate ventilation.  
 All application areas should be ventilated in accordance with applicable OSHA regulations. (29 CFR 1910.94)  
 This product contains a particulate(s) that is considered hazardous per OSHA (29 CFR 1910.1200) and is listed in

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Section III as a precautionary warning.  
 Under normal conditions of use, this product as supplied does not pose a health risk from particulate matter.  
 Physical degradation of the cured product (i.e. sanding, abrading, etc.) may pose a dust hazard.  
 Repeated inhalation of such dust may cause lung injury.

**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
- 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
- Flammability (solid, gas) : No data available

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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	:	1.6656 g/cm <sup>3</sup> (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 <sup>2</sup> /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.
Conditions to avoid	:	No data available
Hazardous decomposition products	:	The by-products expected in incomplete pyrolysis or combustion of epoxy resins are mainly phenolics, CO and water.

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

Inhalation  
Skin contact  
Eyes

**Acute toxicity****Product:**

Acute oral toxicity : Acute toxicity estimate : > 5,000 mg/kg  
Method: Calculation method

**Components:****21645-51-2 Aluminium hydroxide:**

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

**25068-38-6 Epoxy Resin:**

Acute oral toxicity : LD50 (Rat): 11,400 mg/kg

LD50 (Rat, female): > 2,000 mg/kg  
Method: OECD Test Guideline 420  
GLP: yes

Acute inhalation toxicity : LC50 : Remarks: No data available

Acute dermal toxicity : LD50 (Rabbit): 23,400 mg/kg

LD50 (Rat, male and female): > 2,000 mg/kg  
Method: OECD Test Guideline 402  
GLP: yes

**115-86-6 Triphenyl phosphate:**

Acute oral toxicity : LD50 (Mouse): 1,320 mg/kg

Acute inhalation toxicity : Remarks: No data available

Acute dermal toxicity : LD50 (Guinea pig): > 4,000 mg/kg

**Skin corrosion/irritation****Product:**

Remarks: May cause skin irritation and/or dermatitis.

**Components:****25068-38-6 Epoxy Resin:**

Species: Rabbit  
Result: Moderate skin irritation

Species: Rabbit

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Exposure time: 4 h  
Method: OECD Test Guideline 404  
Result: Skin irritation  
GLP: yes

**115-86-6 Triphenyl phosphate:**

Species: Rabbit  
Method: OECD Test Guideline 404  
Result: No skin irritation  
GLP: yes

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

Remarks: May cause irreversible eye damage.

**Components:****25068-38-6 Epoxy Resin:**

Species: Rabbit  
Result: Eye irritation

**115-86-6 Triphenyl phosphate:**

Species: Rabbit  
Result: No eye irritation  
Method: OECD Test Guideline 405  
GLP: yes

**Respiratory or skin sensitisation****Product:**

Remarks: Causes sensitisation.

**Components:****25068-38-6 Epoxy Resin:**

Test Type: Mouse Local Lymph Node assay (LLNA)  
Species: Mouse  
Method: OECD Test Guideline 429  
Result: May cause sensitisation by skin contact.  
GLP: yes

**115-86-6 Triphenyl phosphate:**

Test Type: Maximisation Test (GPMT)  
Species: Guinea pig  
Method: OECD Test Guideline 406  
Result: Does not cause skin sensitisation.  
GLP: yes

**Carcinogenicity**

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<b>IARC</b>	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.
<b>ACGIH</b>	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.
<b>OSHA</b>	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.
<b>NTP</b>	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.

**Aspiration toxicity****Components:****25068-38-6 Epoxy Resin:**

No aspiration toxicity classification

**Further information****Product:**

Remarks: No data available

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****21645-51-2 Aluminium hydroxide:**

Toxicity to fish : LC50 (Fish): &gt; 10,000 mg/l

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): &gt; 10,000 mg/l

**25068-38-6 Epoxy Resin:**

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia (water flea)): 1.7 mg/l  
 Exposure time: 48 h  
 Test Type: static test  
 Method: OECD Test Guideline 202  
 GLP: yes

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.3 mg/l  
 Exposure time: 21 d  
 Test Type: semi-static test  
 Method: OECD Test Guideline 211  
 GLP: yes

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**115-86-6 Triphenyl phosphate:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.3 mg/l  
Exposure time: 96 h
- LC50 (Pimephales promelas (fathead minnow)): 0.87 mg/l  
Exposure time: 96 h  
Test Type: flow-through test
- LC50 (Lepomis macrochirus (Bluegill sunfish)): 290.0 mg/l  
Exposure time: 96 h  
Test Type: static test
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 1.0 mg/l  
Exposure time: 48 h
- Toxicity to algae : EC50 (Chlorella vulgaris (Fresh water algae)): 2.0 mg/l  
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 0.254 mg/l  
Exposure time: 21 d  
Test Type: semi-static test  
Method: OECD Test Guideline 211  
GLP: yes

**Persistence and degradability****Components:****25068-38-6 Epoxy Resin:**

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

**Bioaccumulative potential****Components:****25068-38-6 Epoxy Resin:**

- Partition coefficient: n-octanol/water : log Pow: 3.242 (25 °C)  
pH: 7.1  
Method: OECD Test Guideline 117  
GLP: yes

**Mobility in soil**

No data available

**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



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Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,  
 N.O.S.  
 (Triphenyl phosphate)

Class : 9

Packing group : III

Labels : 9

EmS Code : F-A, S-F

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 3082

Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
 (Triphenyl phosphate)

Class : 9

Packing group : III

Labels : Miscellaneous substances and articles

ERG Code : 171

Marine pollutant : no

**SECTION 15. REGULATORY INFORMATION**
**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

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**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**

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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 Intermediate or Final VOC's (40 CFR 60.489).

**Massachusetts Right To Know**

Triphenyl phosphate	115-86-6
Epichlorohydrin	106-89-8

**Pennsylvania Right To Know**

Aluminium hydroxide	21645-51-2
Epoxy Resin	25068-38-6
Triphenyl phosphate	115-86-6
Epichlorohydrin	106-89-8

**New Jersey Right To Know**

Aluminium hydroxide	21645-51-2
Epoxy Resin	25068-38-6
Triphenyl phosphate	115-86-6

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

**California Prop 65**

WARNING! This product contains a chemical known to the State of California to cause cancer.

Carbon black	1333-86-4
Epichlorohydrin	106-89-8
Phenyl glycidyl ether	122-60-1

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Epichlorohydrin	106-89-8
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**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

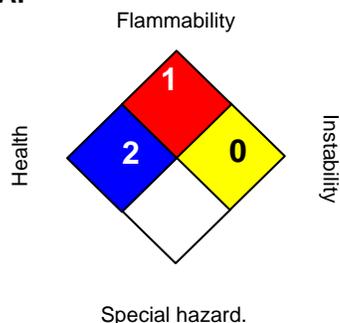
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on the DSL.

**SECTION 16. OTHER INFORMATION**
**Further information**
**NFPA:**

**HMIS III:**

<b>HEALTH</b>	<b>2</b>
<b>FLAMMABILITY</b>	<b>1</b>
<b>PHYSICAL HAZARD</b>	<b>0</b>

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.