

### SECTION 1: Identification

#### 1.1. Identification

Product name : Novoxy 75 Hardener

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Product use : Manufacturing

#### 1.3. Details of the supplier of the safety data sheet

Innovations Amplified  
2627 N Emerson Avenue  
Indianapolis, IN, USA 46218

#### 1.4. Emergency telephone number

Emergency number : CHEMTREC:  
800-424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Flam. Liq. 4 H227  
Skin Corr. 1 H314  
Eye Dam. 1 H318  
Resp. Sens. 1 H334  
Skin Sens. 1 H317  
Repr. 2 H361

Full text of hazard classes and H-statements: see section 16

#### 2.2. Label elements

##### GHS US labeling

Hazard Pictograms (GHS US)



Signal word (GHS US)

: Danger

Hazard statements (GHS US)

: H227 - Combustible liquid  
H314 - Causes severe skin burns and eye damage  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H334 - May cause an allergy or asthma symptoms or breathing difficulties if inhaled  
H361 - Suspected of damaging fertility or the unborn child

Precautionary statements (GHS US)

: P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray.  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P264 - Wash hands, forearms and face thoroughly after handling.  
P272 - Contaminated work clothing must not be allowed out of the workplace  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P284 - [In case of inadequate ventilation] wear respiratory protection.  
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting  
P302+P352 - If on skin: Wash with plenty of water  
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P304+P341 - If inhaled: If breathing is difficult, remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P308+P313 - If exposed or concerned: Get medical advice/attention.  
P310 - Immediately call a poison center or doctor

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P321 - Specific treatment (see supplemental first aid instruction on this label)  
P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.  
P342+P311 - If experiencing respiratory symptoms: Call a poison center or doctor  
P363 - Wash contaminated clothing before reusing.  
P370+P378 - In case of fire: Use media other than water to extinguish.  
P403+P235 - Store in a well-ventilated place. Keep cool.  
P405 - Store locked up.  
P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
1,2-Cyclohexanediamine	(CAS-No.) 694-83-7	Trade Secret	Skin Corr. 1, H314
Phenol, styrenated	(CAS-No.) 61788-44-1	Trade Secret	Not classified
Diisopropylnaphthalene	(CAS-No.) 38640-62-9	Trade Secret	Asp. Tox. 1, H304
Triethanolamine	(CAS-No.) 102-71-6	Trade Secret	Not classified
Piperazine	(CAS-No.) 110-85-0	Trade Secret	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 Resp. Sens. 1, H334 Skin Sens. 1, H317 Repr. 2, H361
1-Piperazineethanamine	(CAS-No.) 140-31-8	Trade Secret	Flam. Liq. 4, H227 Acute Tox. 3 (Dermal), H311

Full text of hazard classes and H-statements: see section 16

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell. Get medical advice/attention if you feel unwell. Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a poison center or a doctor.
First-aid measures after skin contact	: Rinse skin with water/shower. Wash skin with plenty of water. Take off contaminated clothing. Remove/Take off immediately all contaminated clothing. Call a physician immediately. If skin irritation occurs: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Do not induce vomiting. Call a physician immediately. Call a poison center/doctor/physician if you feel unwell.

### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation	: May cause an allergy or asthma symptoms or breathing difficulties if inhaled.
Symptoms/effects after skin contact	: Burns. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Burns.

### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

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### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Combustible liquid.  
Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

### 5.3. Advice for firefighters

- Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

- Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.  
Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wear personal protective equipment. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray. Avoid breathing dust/fume/gas/mist/vapors/spray.  
Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

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

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Phenol, styrenated (61788-44-1)</b>		
Not applicable		
<b>1,2-Cyclohexanediamine (694-83-7)</b>		
Not applicable		
<b>Diisopropylnaphthalene (38640-62-9)</b>		
Not applicable		
<b>1-Piperazineethanamine (140-31-8)</b>		
Not applicable		
<b>Triethanolamine (102-71-6)</b>		
ACGIH	ACGIH TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup>
<b>Piperazine (110-85-0)</b>		
ACGIH	ACGIH TWA (ppm)	0.03 ppm (inhalable fraction and vapor)

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### 8.2. Exposure controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Hand protection	: Protective gloves.
Eye protection	: Safety glasses.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: Wear respiratory protection.
Environmental exposure controls	: Avoid release to the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: light yellow
Odor	: Amine-like
Odor threshold	: No data available
pH	: 11
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 200 °C
Flash point	: 75 °C
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 0.992 g/cm <sup>3</sup>
Solubility	: No data available
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity : Not classified

<b>Phenol, styrenated (61788-44-1)</b>	
LD50 oral rat	2100 - 6700 mg/kg
LD50 dermal rabbit	> 7940 mg/kg
LC50 inhalation rat (mg/l)	> 2.5 mg/l (Exposure time: 6 h)
ATE US (oral)	2100 mg/kg body weight
<b>1,2-Cyclohexanediamine (694-83-7)</b>	
LD50 oral rat	4556 mg/kg
LC50 inhalation rat (mg/l)	> 3.23 mg/l/4h
ATE US (oral)	4556 mg/kg body weight
<b>Diisopropylnaphthalene (38640-62-9)</b>	
LD50 oral rat	3900 mg/kg
LD50 dermal rat	> 4500 mg/kg
LC50 inhalation rat (mg/l)	> 5.64 mg/l/4h
ATE US (oral)	3900 mg/kg body weight
<b>1-Piperazineethanamine (140-31-8)</b>	
LD50 oral rat	2140 µl/kg
LD50 dermal rabbit	880 µl/kg
ATE US (oral)	2140 mg/kg
ATE US (dermal)	880 mg/kg
<b>Triethanolamine (102-71-6)</b>	
LD50 oral rat	4190 mg/kg
LD50 dermal rabbit	> 20000 mg/kg
ATE US (oral)	4190 mg/kg
<b>Piperazine (110-85-0)</b>	
LD50 oral rat	600 mg/kg
LD50 dermal rabbit	1590 mg/kg
ATE US (oral)	600 mg/kg body weight
ATE US (dermal)	1590 mg/kg body weight

Skin corrosion/irritation : Causes severe skin burns and eye damage.  
Serious eye damage/irritation : Causes serious eye damage.  
Respiratory or skin sensitization : May cause an allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.  
Germ cell mutagenicity : Not classified  
Carcinogenicity : Not classified

<b>Triethanolamine (102-71-6)</b>	
IARC group	3 - Not classifiable

Reproductive toxicity : Suspected of damaging fertility or the unborn child.  
Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

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<b>Diisopropylnaphthalene (38640-62-9)</b>	
LC50 fish 1	> 1000 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Oryzias latipes [static])
<b>1-Piperazineethanamine (140-31-8)</b>	
LC50 fish 1	1950 - 2460 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
EC50 Daphnia 1	32 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [semi-static])
<b>Triethanolamine (102-71-6)</b>	
LC50 fish 1	10600 - 13000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through])
LC50 fish 2	> 1000 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])
<b>Piperazine (110-85-0)</b>	
LC50 fish 1	> 10000 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])

### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

<b>Phenol, styrenated (61788-44-1)</b>	
Log Pow	> 4 (at 22 °C)
<b>Diisopropylnaphthalene (38640-62-9)</b>	
BCF fish 1	203
Log Pow	> 4 (at 25 °C)
<b>1-Piperazineethanamine (140-31-8)</b>	
BCF fish 1	(no bioaccumulation expected)
Log Pow	-1.48
<b>Triethanolamine (102-71-6)</b>	
BCF fish 1	< 3.9
Log Pow	-2.53
<b>Piperazine (110-85-0)</b>	
BCF fish 1	0.3 - 3.9

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2735 Polyamines, liquid, corrosive, n.o.s. (1,2-Cyclohexanediamine, Piperazine), 8, III

UN-No.(DOT) : UN2735

Proper Shipping Name (DOT) : Polyamines, liquid, corrosive, n.o.s.  
1,2-Cyclohexanediamine, Piperazine

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : III - Minor Danger

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Hazard labels (DOT)

: 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx)

: 203

DOT Packaging Bulk (49 CFR 173.xxx)

: 241

DOT Special Provisions (49 CFR 172.102)

: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).

T7 - 4 178.274(d)(2) Normal ..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling =  $97 / 1 + a (tr - tf)$  Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx)

: 154

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

: 5 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)

: 60 L

DOT Vessel Stowage Location

: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

DOT Vessel Stowage Other

: 52 - Stow "separated from" acids

Emergency Response Guide (ERG) Number

: 153

Other information

: No supplementary information available.

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Phenol, styrenated (61788-44-1)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 1,2-Cyclohexanediamine (694-83-7)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Diisopropylnaphthalene (38640-62-9)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### 1-Piperazineethanamine (140-31-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Triethanolamine (102-71-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

#### Piperazine (110-85-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

### 15.2. US State regulations

#### 1-Piperazineethanamine (140-31-8)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

#### Triethanolamine (102-71-6)

U.S. - Massachusetts - Right To Know List

U.S. - Minnesota - Hazardous Substance List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

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### Piperazine (110-85-0)

U.S. - Massachusetts - Right To Know List

U.S. - New Jersey - Right to Know Hazardous Substance List

U.S. - Pennsylvania - RTK (Right to Know) List

## SECTION 16: Other information

Full text of H-phrases:

Acute Tox. 3 (Dermal)	Acute toxicity (dermal) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Asp. Tox. 1	Aspiration hazard Category 1
Eye Dam. 1	Serious eye damage/eye irritation Category 1
Flam. Liq. 4	Flammable liquids Category 4
Repr. 2	Reproductive toxicity Category 2
Resp. Sens. 1	Respiratory sensitization, Category 1
Skin Corr. 1	Skin corrosion/irritation Category 1
Skin Corr. 1B	Skin corrosion/irritation Category 1B
Skin Sens. 1	Skin sensitization, Category 1
H227	Combustible liquid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H334	May cause an allergy or asthma symptoms or breathing difficulties if inhaled
H361	Suspected of damaging fertility or the unborn child

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*