



**Safety Data Sheet**  
**ARCOR™ 2211 ACTIVATOR**

Date of Issue: 01/2019

ChemTel ERS / MOD Tel US: 800-255-3924  
Outside US: +001-813-248-0585

**Section 1 - Identification of the Substance/Mixture and of the Company**

**Date of SDS Revision:** January 23, 2019

**1.1 Product identifier**

**Product Name:** 2211 Activator  
**Product Number:** 23231  
**Product Use:** AMINE CURED 100% SOLIDS EPOXY REBUILD COMPOUND  
**Manufacturer/Supplier:** Novolac Epoxy Technologies Inc.

**1.2 Relevant identified uses of the preparation and uses identified against**  
**Product Use:** AMINE CURED 100% SOLIDS EPOXY REBUILD COMPOUND  
**For professional/industrial use only.**

**1.3 Details of the supplier of the safety data sheet**

Novolac Epoxy Technologies Inc.  
PO Box 990  
Harwich, MA 02660 U.S.A.  
Tel: 508-385-5598  
E-mail: [Tech@ArcorEpoxy.com](mailto:Tech@ArcorEpoxy.com)  
Web: [www.NovolacEpoxy.Com](http://www.NovolacEpoxy.Com)

**1.4 Emergency telephone number**

ChemTel (24 hours): 1-800-255-3924 (USA);  
+1-813-248-0585 (outside USA);  
1-300-954-583 (Australia);  
000-800-100-4086 (India).

**Section 2 - Hazards Identification**

**2.1 Classification of the substance/mixture**

**2.1.1 Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]**

Acute oral toxicity cat. 4  
H302  
Skin irritation cat. 2  
H315  
Eye damage cat. 1  
H318  
Skin sensitization cat. 1  
H317  
Acute toxicity/inhalation cat. 4 H332  
STOT-re, cat.2  
H373  
Aquatic toxicity, chronic cat. 3 H412

## 2.2 Labeling elements

### 2.2.1 Labeling according Regulation (EC) No 1272/2008 [CLP]

**Signal Word: Danger**

**Hazard pictogram:**



#### **Hazard statements**

H302 + H332 Harmful if swallowed and if inhaled.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.

#### **Precautionary statements**

P261 Avoid breathing mist/vapors/spray.  
P264 Wash hands and skin contact areas thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves / eye protection / face protection.  
P310 Immediately call a POISON CENTER or doctor.  
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P312 Call a POISON CENTER or doctor if you feel unwell.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P333 + P313 If skin irritation or rash occurs: Get medical attention.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position 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.  
P362 Take off contaminated clothing and wash before reuse.  
P501 Dispose of contents/container through a waste management company authorized by the local government.

## 2.3 OSHA GHS classification

This product is classified as non-hazardous as defined within the GHS OSHA Hazard Communication Standard 29CFR1910.1200.

## Section 3 - Composition / Information on Ingredients

### 3.1 Substances

N/A

### 3.2 Mixtures

**Composition/Information on ingredients:**

	<b>CAS Number</b>	<b>OSHA PEL</b>	<b>ACGIH TVL</b>	<b>Composition %</b>
4,4'- Methylenebis(cyclohexanamine)	1761-71-3	Not established	Not established	3.0- 8.0%
Benzene-1,3-dimethanamine (MXDA)	1477-55-0	Not established	Not established	1.0- 5.0%
Salicylic acid	69-72-7	Not established	Not established	0.1- 0.7%
Trimethylhexamethylene-1,6-diamine	25620-58-0	Not established	Not established	8.0- 20.0%

Epoxy polyamine adduct	NJ TSRN 56013900-5042	Not established	Not established	8.0- 20.0%
Cresol, mixed isomers	1319-77-3	Not established	Not established	0.5- 3.0%
Benzyl alcohol	100-51-6	Not established	Not established	1.0- 15.0%
Titanium Dioxide	13463-67-7	Not established	Not established	1.0- 5.0%
Aluminum Oxide	1344-28-1	Not established	Not established	18.0-35.0%
Barium Sulfate	7727-43-7	Not established	Not established	1.0- 5.0%
Silicon Dioxide	14808-60-7	Not established	Not established	0.0- 0.1%
Strontium Sulfate	7759-02-6	Not established	Not established	0.0- 0.1%
Silicones, Siloxanes, reaction products w/ Silica	67762-90-7	Not established	Not established	0.1- 5.0%

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits. Exact percentage values for components are proprietary in accordance with 29 CFR 1910.1200(i).

## Section 4 - First Aid Measures

### 4.1 Description of First Aid measures

General advice: consult a physician; show this SDS to doctor in attendance.

**In the event of skin contact:** Rinse immediately with plenty of water; remove contaminated clothing; wash thoroughly with soap and water for at least 15 minutes. If irritation, rash or other adverse effects develop, get medical attention immediately.

**In the event of eye contact:** Bathe the eye with running water for at least 15 minutes, lifting upper and lower eyelids. Get medical attention immediately.

**In the event of swallowing:** Do NOT induce vomiting unless advised by a physician. Rinse out mouth with water. Call nearest Poison Control Center or physician immediately.

**In the event of exposure by inhalation:** Move person to fresh air and keep at rest in a position comfortable for breathing; if breathing is irregular, provide artificial respiration; if there are breathing difficulties, administer oxygen; get medical attention.

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

Harmful if swallowed and if inhaled; can cause severe skin burns and eye damage; sensitizer.

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

Treat symptomatically.

Eye wash stations and emergency showers should be available.

## Section 5 - Fire Fighting Measures

### 5.1 Extinguishing media

Water fog, dry chemical, CO<sub>2</sub>, dry sand, limestone powder, alcohol-resistant foam.

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

Product may ignite if heated in excess of its flash point. Vapors may travel to sources of ignition and flashback. Vapor concentrations in enclosed areas may ignite explosively. Empty containers may contain ignitable vapors. Exposure to decomposition products may be harmful to health; combustion products may include but are not limited to: carbon monoxide, carbon dioxide, nitrogen oxides; the formation of hydrocarbon fragments is possible in the initial stages of fire (especially in between 400°C and 700°C); smoke may contain particles of the original material as well.

**5.3 Advice for fire fighters:** Use protective fire fighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. Move containers from fire area if you do it without risk. Dike fire control water for later disposal; prevent runoff from entering drains. Cool fire exposed containers with water stream. Do not use high volume water jet on the fire as this may spread the area of the fire.

## Section 6 - Accidental Release Measures

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

Isolate area; ensure adequate ventilation; remove all sources of ignition; use appropriate personal protection equipment; avoid breathing mist, vapors, spray; avoid contact with skin, eyes and clothing; keep unnecessary and unprotected personnel from entering the involved area. Local authorities should be advised if significant spillages cannot be contained.

### 6.2 Environmental precautions

Halt the flow of material as soon as practical using appropriate barriers; turn containers leak-side up to stop the escape of liquid. This material is a water pollutant and should be prevented from contaminating soil or from entering sewerage and drainage systems and bodies of water.

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

Soak up with sand, earth, diatomaceous earth or other suitable inert absorbent material; collect into suitable waste disposal containers. Reuse uncontaminated material when possible. Wash spillage site with large amounts of water. Dispose of in accordance with applicable local and federal environmental control laws and regulations.

### 6.4 Reference to other sections

For more information on exposure controls, personal protection and disposal, review data in section 8 and section 13 of this SDS.

## Section 7 - Handling and Storage

### 7.1 Precautions for safe handling

Ensure adequate ventilation. Prevent inhalation of vapor, ingestion, and contact with skin, eyes and clothing. Keep containers closed when not in use. Precautions apply to empty containers as well. Do not eat, drink or smoke in the work area. Wash thoroughly after handling. Personal protective equipment must be worn during maintenance or repair of mixers, reactors or other equipment containing the material.

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

Store in a cool, dry area with adequate ventilation. Store away from foodstuffs and all incompatible material. Keep container tightly closed when not in use.

**Incompatibilities:** Do not store together with strong oxidizing agents.

## Section 8 - Exposure Controls / Personal Protection

### 8.1 Control parameters

**Occupational exposure limits:** None assigned

The AIHA recommended WEEL (workplace environmental exposure level) for Benzyl alcohol is 10 ppm (8h-TWA) (45 mg/m<sup>3</sup>).

### 8.1.2 Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference can be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents for the determination of hazardous substances.

### 8.2 Exposure Controls:

Follow good industrial workplace practices; do not eat, drink or smoke while handling; wash hands before breaks and at end of workshift; follow recommendations in this SDS.

### 8.2.1 Appropriate engineering controls

Ventilation through local exhaust if general ventilation is inadequate. Ten air changes per hour are generally recommended.

## 8.2.2 Individual protection measures, such as personal protective equipment

### 8.2.2.1 Eye/face protection

Wear chemical safety goggles and/or face shield to prevent eye contact. Refer to OSHA Standard 29CFR1910.133 and European Standard EN166.

### 8.2.2.2 Skin protection

Wear impervious clothing as necessary to protect against product contact. Necessity for boots, apron, face shield, etc. will be dependent on any hazards presented in the work process. Refer to CFR1910.132 and CFR1910.136 for OSHA approved standards on protective clothing and footwear.

### 8.2.2.3 Respiratory protection

If ventilation is inadequate or if irritation or other symptoms are experienced, wear a NIOSH/MHSA approved respirator with organic vapor cartridge. Respirator use should follow the guidelines of an established respiratory protection program in compliance with 29CFR1910.134.

### 8.2.2.4 Hand protection

Use suitable impervious neoprene or nitrile rubber gloves. When prolonged or frequently repeated contact may occur, glove material should have a breakthrough time that exceeds 480 minutes (breakthrough rating = 6); when only brief contact is expected, a glove with a lesser breakthrough rating (rating 2 = >30 minutes) may be suitable. Note the requirements of Standard EN 374.

**Other Protective Equipment:** The type and degree of personal protective equipment appropriate will depend on the specific work operation. Eye wash stations and emergency showers should be available. Inspect and replace personal protective equipment at regular intervals; use professional care in their selection, use and care.

## 8.3 Environmental exposure controls

Observe all precautions to prevent contamination of soil and waterways.

# Section 9 - Physical and Chemical Properties

## 9.1 Information on basic physical and chemical properties

### 9.1.1 General information:

**Appearance:** Viscous Paste

**Color:** Beige/White

**Type of Odor:** Mild amine-like

**Odor Threshold:** No data available

### 9.1.2 Important health, safety and environmental information:

**Boiling Point:** >205°C (>401°F)

**Melting Point:** No data available

**Flammability Classification:** Combustible IIIB

**Flash Point:** >101°C (>214°F) (cc)

**Autoignition Temperature:** >300°C (>572°F)

**Decomposition Temperature:** No data available

**Flammability Limits (lower/upper):** LEL: 0.6% UEL: 13%

**Vapor Pressure:** 0.094 mm Hg @ 25°C

**Vapor Density (Air=1):** 7.24

**Evaporation Rate (BuAc=1):** <1

**Octanol/Water Partition Coefficient (log P<sub>ow</sub>):** approx. 1 - 3

**Specific Gravity:** 1.92

**Bulk Density:** 16.0 lbs/gal

**Water Solubility:** Partially soluble

**pH:** No data available  
**Viscosity:** 250-700 cP @ 25°C  
**Explosive Properties:** Not explosive  
**Oxidizing Properties:** Not determined  
**Molecular Formula:** (mixture)  
**VOC Content:** <1%

## Section 10 - Stability and Reactivity

### 10.1 Stability and Reactivity

#### 10.1 Reactivity

No dangerous reaction is known under normal use and storage conditions.

#### 10.2 Stability

Stable under normal use and storage conditions.

#### 10.3 Possibility of hazardous reactions

Mixtures with strongly acidic materials may produce an exothermic reaction.

#### 10.4 Conditions to avoid

Avoid elevated temperatures and sources of ignition.

#### 10.5 Incompatible materials

Acids, oxidizing agents, epoxies, isocyanates.

#### 10.6 Hazardous decomposition products

Thermal decomposition will generate carbon monoxide, carbon dioxide and nitrogen oxides.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

**Acute Oral Toxicity:** LD50(rat): 690 mg/kg (ATE)

**Acute Dermal Toxicity:** LD50(rabbit): 2188 mg/kg (ATE)

**Acute Inhalation Toxicity:** LD50(rabbit): >900 mg/m<sup>3</sup> (Salicylic acid)

**Skin Corrosion/Irritation: Draize Test:** Rabbit/skin: Irritating

**Serious Eye Damage/Irritation: Draize Test:** Rabbit/eye: Irritating

**Skin Sensitization (guinea pig):** Sensitizer

**Germ Cell Mutagenicity:** Not classified as mutagenic

**Carcinogenicity:** Not classified as carcinogenic. Not listed by OSHA/NTP/IARC.

**Reproductive Toxicity:** Not classified as a reproductive toxicant

**Specific Target Organ Toxicity - single exposure (STOT-se):** Product not classified based on available data.

**Specific Target Organ Toxicity - repeated exposure (STOT-re):** May cause damage to the liver and skeletal muscles through prolonged or repeated oral exposure.

**NOAEL:** (oral, rat): 15 mg/kg body weight per day.

**Aspiration Hazard:** Aspiration occurring while vomiting may cause lung damage.

#### Potential Health Effects:

**Skin Contact:** May cause irritation, itching, reddening, inflammation; may be absorbed through the skin with CNS effects; may cause an allergic reaction.

**Eye Contact:** Causes serious eye damage; vapors are irritating and may cause damage to the eyes; contact may cause severe burns and permanent eye damage including blindness.

**Ingestion:** Harmful if swallowed; may cause severe and permanent damage to mouth, throat and stomach; may lead to perforation of the intestine.

**Inhalation:** Harmful if inhaled; may cause severe irritation to the respiratory tract; may cause CNS symptoms including headache, nausea, mental confusion, blurred vision, fatigue, dizziness

and loss of coordination; prolonged overexposure may cause respiratory failure.

**Chronic Health Effects:**

Skin sensitizer; once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. After repeated high-dose oral exposure the substance causes adverse effects to the liver, kidneys.

**Additional Data:**

RTECS No. GV5020833 (PACM)

RTECS No. DN3150000 (Benzyl alcohol)

RTECS No. VO0525000 (Salicylic acid)

## Section 12 - Ecological Information

### 12.1 Toxicity

#### 12.1.1 Acute/prolonged toxicity to fish

LC50(freshwater fish)(96-hr): 10 mg/l (ATE)

#### 12.1.2 Acute/prolonged toxicity to aquatic invertebrates

EC50(Daphnia magna)(48-hr): 10 mg/l (ATE)

#### 12.1.3 Acute/prolonged toxicity to aquatic plants

EC50(algae)(72-hr): 16 mg/l (ATE)

#### 12.1.4 Toxicity to bacteria, to soil dwelling organisms and to terrestrial plants

No data available

#### 12.1.5 Chronic toxicity to aquatic organisms

Long lasting adverse effects to aquatic organisms.

#### 12.1.6 General effect

Harmful to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

Not readily biodegradable.

### 12.3 Bio accumulative potential

No data available

### 12.4 Mobility in soil

No data available; do not allow product to enter soil/subsoil.

### 12.5 Results of PBT and vPvB assessment (EC reg. 453/2010)

Product not classified as Persistent, Bio accumulative and Toxic

Product not classified as very Persistent or very Bio accumulative

### 12.6 German WGK classification

WGK = 1 (self-assessment)

### 12.7 Other adverse effects

Neutralization may be required before discharging to wastewater treatment plants.

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

**Disposal:** Do not dump to ground, sewers or watercourses. Incinerate or otherwise dispose of in compliance with all applicable federal, state and local environmental control laws and regulations. Waste characterization according to RCRA guidelines and compliance with

applicable laws are the responsibility solely of the waste generator.

**Container Disposal:** Containers should be drained of all residual product prior to disposal.

When Activator is mixed and cured with Base component the resultant cured product is inert and non-hazardous and may be disposed of in general landfill.

## Section 14 - Transport Information

### 14.1 Shipping description

**CFR Non-regulated**

**TDG Non-regulated**

**IMO/IMDG Non-regulated**

**IATA (Cargo) Non-regulated**

**Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.'**

## Section 15 - Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or Mixture

**United States - TSCA 12(b) - Chemical export notification:** None required.

**United States - TSCA 5(a)2 - Final significant new use rules:** Not listed

**United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed

**United States - TSCA 5(e) - Substances consent order:** Not listed

**Australia inventory (AICS):** All components are listed or exempted.

**Canada inventory:** All components are listed or exempted.

**Japan inventory:** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Korea inventory:** All components are listed or exempted.

**New Zealand Inventory (NZIoC):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.

**United States inventory (TSCA 8b):** All components are listed or exempted.

**Taiwan inventory (CSNN):** All components are listed or exempted.

**SARA Title III Section 313 (40CFR372):** No reportable components

**CERCLA Status (40CFR302):** No Reportable Quantity components

**TSCA Inventory Status:** Reported/included

**Canadian DSL Status:** Reported/included

**Canadian WHMIS Classification:** D2B

**Canadian NPRI :** None required.

**CEPA Toxic substances :** None required

**Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity:** This product contains Epichlorohydrin CAS# 106-89-8 (trace amount).

### **REACH Annex XIV (SVHC)**

No listed components

### **REACH Annex XVII (Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles)**

No listed components



**REACH Status (EC 1907/2006):** This material has been registered, pre-registered or is otherwise exempted from registration under the Registration, Evaluation and Authorization of Chemical Substances.

**Chemical safety assessment**

Not available

## Section 16 - Other Information

**HMIS ratings:**

Health: **3**

Flammability: **1**

Reactivity: **0**

(Personal protective equipment selection is best assigned by the user after performing a hazard assessment on the product as it is to be used in the specific work process.)

**National chemical inventories**

All components of this product are listed on the following chemical substance inventories:

TSCA (USA)

DSL (Canada)

EINECS (Europe)

ENCS (Japan)

ECL (Korea)

AICS (Australia)

PICCS (Philippines)

IECSC (China)

NZIoC (New Zealand)

**Abbreviations**

ACGIH American Conference of Governmental Industrial Hygienists

ADR

International carriage of dangerous goods by Road

AICS Australian Inventory of Chemical Substances

AIHA American Industrial Hygiene Association

ATE Acute toxicity estimate

BfR Bundesinstitut für Risikobewertung recommendations for food contact materials

BCF Bioconcentration Factor

CERCLA Comprehensive Environmental Response, Compensation and Liability Act

CLP Classification, Labeling and Packaging regulation

DOT Department of Transportation

DSL Domestic Substances List

EINECS European Inventory of Existing Chemical Substances

ECL Existing Chemicals List (Korea)

ENCS Existing and New Chemical Substances Inventory (Japan)

EN 689 Workplace atmospheres – Guidance for the assessment of exposure by inhalation to

chemical agents for comparison with limit values and measurement strategy

ERG Emergency Response Guide

GHS Globally Harmonized System

HMIS Hazardous Materials Information System

IARC

International Agency for Research on Cancer

IATA

International Air Transport Association

ICAO

International Civil Aviation Organization

IDLH

Immediately Dangerous to Life and Health  
IMDG  
International Maritime Dangerous Goods  
LD50 Lethal dose to 50% of test animal population  
MAK Maximale Arbeitsplatz Konzentration  
NOAEL No observable adverse effect level  
NTP National Toxicology Program  
OEL Occupational Exposure Limit  
OSHA Occupational Safety & Health Administration  
PBT Persistent, Bio accumulative and Toxic  
vPvB Very Persistent and Very Bio accumulative  
PEL Permissible exposure limit  
PICCS Philippine Inventory of Commercial Chemical Substances  
PNEC Predicted No Effect Concentration  
REACH Registration, evaluation and authorization of chemical substances  
RID  
International carriage of dangerous goods by Rail  
SARA Superfund Amendments and Reauthorization Act  
STEL Short Term Exposure Limit  
SVHC Substance of Very High Concern  
TLV  
Threshold Limit Value  
TSCA Toxic Substances Control Act  
TWA Time Weighted Average  
VOC Volatile organic compound  
WEEL Workplace Environmental Exposure Level  
WGK Wassergefährdungsklasse (Water Hazard Class)  
WHMIS Workplace Hazardous Material Identification System

**Date of Issue: 01/2019**

**Date of Previous Issue: 05/2015**

## **DISCLAIMER**

TO THE BEST OF OUR KNOWLEDGE, THE INFORMATION CONTAINED HEREIN IS ACCURATE. HOWEVER SOME OF THE INFORMATION PRESENTED AND CONCLUSIONS DRAWN ARE DERIVED FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE PRODUCT ITSELF AND WHILE NOVOLAC EPOXY TECHNOLOGIES INC BELIEVES SUCH SOURCES TO BE RELIABLE, THE INFORMATION IS PROVIDED WITHOUT WARRANTY REGARDING ITS CORRECTNESS.

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USERS ARE ADVISED TO PERFORM THEIR OWN TESTS AND HAZARD ASSESSMENTS TO DETERMINE THE SAFETY, SUITABILITY AND RELEVANCE OF APPLICABLE LAW TO THE PRODUCT AS IT IS TO BE USED BY THEM.

SINCE NOVOLAC EPOXY TECHNOLOGIES INC HAS NO CONTROL OVER THE CONDITIONS UNDER WHICH THE PRODUCT WILL BE USED, LIABILITY WILL NOT BE ASSUMED TO EXCEED REPLACEMENT OR REFUND OF THE PURCHASE PRICE OF THIS PRODUCT. EXCEPT AS STATED HEREIN, THERE ARE NO EXPRESS OR IMPLIED WARRANTIES INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NOVOLAC EPOXY TECHNOLOGIES INC ASSUMES NO LIABILITY FOR INJURY OR INCIDENTAL OR CONSEQUENTIAL DAMAGE ARISING OUT OF THE STORAGE, HANDLING OR USE OR, DISPOSAL OF THIS PRODUCT.



## Safety Data Sheet ARCOR™ 2211 BASE

Date of Issue: 01/2019

ChemTel ERS / MOD Tel US: 800-255-3924

Outside US: +001-813-248-0585

### Section 1 - Identification of the Substance/Mixture and of the Company

Date of SDS Revision: January 23, 2019

#### 1.1 Product identifier

**Product Name:** 2211 Base  
**Product Number:** 23231  
**Product Use:** AMINE CURED 100% SOLIDS EPOXY REBUILD COMPOUND  
**Manufacturer/Supplier:** Novolac Epoxy Technologies Inc.

#### 1.2 Relevant identified uses of the preparation and uses identified against

**Product Use:** AMINE CURED 100% SOLIDS EPOXY REBUILD COMPOUND  
**For professional/industrial use only.**

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

Novolac Epoxy Technologies Inc.  
PO Box 990  
Harwich, MA 02660 U.S.A.  
Tel: 508-385-5598  
E-mail: [Tech@ArcorEpoxy.com](mailto:Tech@ArcorEpoxy.com)  
Web: [www.NovolacEpoxy.Com](http://www.NovolacEpoxy.Com)

#### 1.4 Emergency telephone number

ChemTel (24 hours): 1-800-255-3924 (USA);  
+1-813-248-0585 (outside USA);  
1-300-954-583 (Australia);  
000-800-100-4086 (India).

### Section 2 - Hazards Identification

#### 2.1 Classification of the substance/mixture

**2.1.1 Classification according to OSHA 29CFR1910.1200 and EU (EC) 1272/2008** Skin irritation, cat. 2

H315

Skin sensitization, cat. 1 H317

Eye irritation, cat. 2

H319

Aquatic chronic, cat. 2

H411

#### 2.2 Labeling elements

**2.2.1 Labeling according to OSHA 29CFR1910.1200 and EU (EC) 1272/2008**

**Signal Word:** Warning

## Hazard pictogram:



## Hazard statements

- H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.  
H411 Toxic to aquatic life with long lasting effects.

## Precautionary statements

- P261 Avoid breathing mist/vapors/spray.  
P264 Wash hands and skin contact areas thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves / eye protection / face protection.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
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.  
P391 Collect spillage.  
P501 Dispose of contents/container through a waste management company authorized by the local government.

## 2.3 OSHA GHS classification

This product is classified as non-hazardous as defined within the GHS OSHA Hazard Communication Standard 29CFR1910.1200.

## Section 3 - Composition / Information on Ingredients

### 3.1 Substances

	CAS Number	OSHA PEL	ACGIH TVL	Composition %
Epoxy Resin, Bisphenol-A/ epichlorohydrin	25068-38-6	Not established	Not established	8.0- 20.0%
Epoxy Resin, Phenol-formaldehyde polymer, glycidyl ether	28064-14-4	Not established	Not established	10.0- 25.0%
1,4-bis[(2,3-epoxypropoxy) methyl]cyclohexane	14228-73-0	Not established	Not established	1.0- 5.0%
Aluminum Oxide	1344-28-1	Not established	Not established	35.0- 65.0%
Silicones, Siloxanes, reaction products w/ Silica	67762-90-7	Not established	Not established	0.1- 5.0%

### 3.2 Mixtures

Not applicable

## Section 4 - First Aid Measures

### 4.1 Description of First Aid measures

General advice: consult a physician; show this SDS to doctor in attendance.

**In the event of skin contact:** Drench the affected area immediately with plenty of water;

remove contaminated clothing. Wash thoroughly with soap and water for at least 15 minutes. Get medical attention if irritation persists.

**In the event of eye contact:** Bathe the eye with running water for at least 15 minutes, lifting upper and lower eyelids. Get medical attention if symptoms persist.

**In the event of swallowing:** DO NOT induce vomiting; rinse mouth then drink plenty of water; get medical attention if symptoms persist.

**In the event of exposure by inhalation:** Move person to fresh air. Get medical attention if symptoms develop.

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

Skin irritation, allergic reactions.

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

No specific antidote; treat symptomatically.

Eye wash stations and emergency showers should be available.

## **Section 5 - Fire Fighting Measures**

### **5.1 Extinguishing media**

Carbon dioxide, alcohol resistant foam, dry chemical, water fog; use water spray to cool fireexposed containers.

Do not use direct water stream which may spread fire.

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

Exposure to decomposition products may be harmful to health; combustion products may include but are not limited to: carbon monoxide, carbon dioxide, phenolics; smoke may contain particles of the original material as well. Prevent fire-fighting waters from entering sewer or waterways.

**5.3 Advice for fire fighters:** Use protective fire fighting clothing and positive pressure self-contained breathing apparatus to protect against potential harmful and/or irritating fumes. Do not use high volume water jet as this may spread the area of the fire.

## **Section 6 - Accidental Release Measures**

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

Isolate area; ensure adequate ventilation; use appropriate personal protection equipment; avoid breathing mist, vapors, spray; avoid contact with skin, eyes and clothing; keep unnecessary and unprotected personnel from entering the involved area.

### **6.2 Environmental precautions:**

Prevent contamination of soil and water. Prevent from spreading or entering into drains, ditches, waterways by using sand, earth or appropriate barriers.

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

Absorb with sand, diatomaceous earth or universal binders and collect into suitable disposal container. Dispose of in accordance with applicable local and federal environmental control laws and regulations.

### **6.4 Reference to other sections**

For more information on exposure controls, personal protection and disposal, review data in section 8 and section 13 of this SDS.

## **Section 7 - Handling and Storage**

### **7.1 Precautions for safe handling**

Ensure adequate ventilation of workplace and storage areas; avoid skin contact; do not breathe mist, vapors, spray; use recommended personal protective equipment; wash thoroughly after

handling. Do not eat, drink or smoke in the work area. Avoid use of electric band heaters (failures of such heaters have been reported to cause drums of liquid epoxy resin to explode and catch fire). Never apply a direct flame to any container of product.

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

Store in a cool, dry, well-ventilated place. Keep away from incompatible materials. Keep container tightly closed. Recommended storage temperature: 10-35°C (50-95°F).

## **Section 8 - Exposure Controls / Personal Protection**

### **8.1 Control parameters**

**Occupational exposure limits:** OSHA/PEL: None established

#### **8.1.2 Recommended monitoring procedures**

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference can be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents for the determination of hazardous substances.

### **8.2 Exposure Controls:**

Follow good industrial workplace practices; do not eat, drink or smoke while handling; wash hands before breaks and at end of workshift; follow recommendations in this SDS.

#### **8.2.1 Appropriate engineering controls**

Ensure adequate ventilation through local exhaust.

#### **8.2.2 Individual protection measures, such as personal protective equipment**

##### **8.2.2.1 Eye/face protection**

Use safety glasses with side shields. Refer to OSHA Standard 29CFR1910.133 and European Standard EN166.

##### **8.2.2.2 Skin protection**

Wear impervious clothing as necessary to protect against product contact. Necessity for boots, apron, face shield, etc. will be dependent on any hazards presented in the work process. Refer to CFR1910.132 and CFR1910.136 for OSHA approved standards on protective clothing and footwear.

##### **8.2.2.3 Respiratory protection**

Although no exposure limits have been established, respiratory protection may be of use if any respiratory irritation or discomfort is noted; if the material is processed at elevated temperatures without adequate ventilation, it may be necessary to wear an air-purifying respirator with organic vapor cartridge; respirator use should follow the guidelines of an established respiratory protection program in compliance with 29CFR1910.134.

##### **8.2.2.4 Hand protection**

Wear nitrile rubber, nitrile, neoprene, PVC or other suitable impervious gloves; refer to European Standard EN374. Gloves selected must have a breakthrough rating appropriate for the work shift (>480 minutes).

**Other Protective Equipment:** The type and degree of personal protective equipment appropriate will depend on the specific work operation. Eye wash stations and emergency showers should be available.

### **8.3 Environmental exposure controls**

Observe all precautions to prevent contamination of soil and waterways.

## Section 9 - Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

#### 9.1.1 General information:

**Appearance:** Viscous Paste

**Color:** Blue

**Type of Odor:** Slight epoxy odor

**Odor Threshold:** Not determined

#### 9.1.2 Important health, safety and environmental information:

**Initial Boiling Point:** >218°C (>424°F)

**Melting Point:** Not applicable

**Flammability Classification:** Combustible IIIB

**Flash Point:** >150°C (>302°F)

**Autoignition Temperature:** No data available

**Decomposition Temperature:** >268°C (>514°F)

**Flammability Limits (lower/upper):** No data available

**Vapor Pressure:** 0.03 mm Hg @ 25°C

**Vapor Density (Air=1):** >1

**Evaporation Rate (BuAc=1):** <1

**Octanol/Water Partition Coefficient (log  $P_{ow}$ ):** 3 (for epoxy resin component)

**Specific Gravity:** 1.81

**Bulk Density:** 15.1 lbs/gal

**Water Solubility:** Slight

**pH:** Not determined

**Viscosity:** 30,000-80,000 cP @ 25°C

**Volatile Content:** <1%

**Explosive Properties:** Not determined

**Oxidizing Properties:** Not determined

**Molecular Formula:** (mixture)

## Section 10 - Stability and Reactivity

### 10.1 Stability and Reactivity

#### 10.1 Reactivity

No dangerous reaction is known under normal use and storage conditions.

#### 10.2 Stability

Stable under normal use and storage conditions.

#### 10.3 Possibility of hazardous reactions

Masses of more than one pound (0.5 kg) product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.

#### 10.4 Conditions to avoid

Excessive heat.

#### 10.5 Incompatible materials

Strong oxidizing agents, acids, alkalis, amines.

#### 10.6 Hazardous decomposition products

Uncontrolled exothermic reaction of epoxy resin releases carbon monoxide, carbon dioxide, phenolics, aldehydes.

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

**Acute Oral Toxicity:** LD50(rat): >5000 mg/kg

**Acute Dermal Toxicity:** LD50(rabbit): >4000 mg/kg

**Skin Corrosion/irritation (rabbit):** Causes slight skin irritation

**Serious Eye Damage / Eye Irritation (rabbit):** Causes serious eye irritation; corneal injury is not likely.

**Skin Sensitization (guinea pig):** Causes allergic skin reactions.

**Germ Cell Mutagenicity:** Not classified based on available data.

**Carcinogenicity:** Not classified based on available data. Not listed by IARC, NTP, OSHA.

**Reproductive Toxicity:** Not classified based on available data.

**Specific Target Organ Toxicity - single exposure (STOT-se):** Not classified based on available data.

**Specific Target Organ Toxicity - repeated exposure (STOT-re):** Not classified based on available data.

**Aspiration Hazard:** Not classified based on available data.

#### **Potential Health Effects:**

**Skin:** Causes mild skin irritation; may cause sensitization; once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

**Eyes:** Causes serious eye irritation; pain, irritation, watering, redness

**Ingestion:** Low toxicity; incidental ingestion of small amounts not anticipated to be harmful.

**Inhalation:** Low volatility; not expected to be a significant route of exposure. Inhalation of heated vapors may irritate the respiratory tract causing coughing or wheezing.

#### **Potential Chronic Health Effects:**

May cause an allergic skin reaction.

## Section 12 - Ecological Information

### 12.1 Toxicity

#### 12.1.1 Acute/prolonged toxicity to fish

LC50 (Fathead minnow)(96-hr): 3.1 mg/l (epoxy resin)

#### 12.1.2 Acute/prolonged toxicity to aquatic invertebrates

EC50 (Daphnia magna)(24-hr): 3.6 mg/l (epoxy resin)

#### 12.1.3 Acute/prolonged toxicity to aquatic plants

No data available

#### 12.1.4 Toxicity to bacteria, to soil dwelling organisms and to terrestrial plants

No data available

#### 12.1.5 Chronic toxicity to aquatic organisms

No data available

#### 12.1.6 General effect

Toxic to aquatic life with long lasting effects.

### 12.2 Persistence and degradability

Biodegradation rate: 5% after 28 days (not readily biodegradable)

### 12.3 Bio accumulative potential

BCF = 31, Log  $P_{ow}$  = 3 (low potential to bioaccumulate in aquatic organisms)

### 12.4 Mobility in soil

No data available



### 12.5 Results of PBT and vPvB assessment (EC reg. 453/2010)

Not classified as Persistent, Bio accumulative and Toxic  
Not classified as very Persistent or very Bio accumulative

### 12.6 German WGK classification

WGK = 2 (self-classification)

### 12.7 Other adverse effects

No other adverse effects are identified.

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

**Disposal:** Do not dump to ground, sewers or watercourses. Reuse uncontaminated material when possible. All methods of disposal must be in compliance with all applicable federal, state and local environmental control laws and regulations. Waste characterization according to RCRA guidelines and compliance with applicable laws are the responsibility solely of the waste generator.

**Container Disposal:** Containers should be drained of all residual product prior to disposal; empty/clean containers should be recycled; incinerate or landfill when recycling is not feasible.

When Activator is mixed and cured with Base component the resultant cured product is inert and non-hazardous and may be disposed of in general landfill.

## Section 14 - Transport Information

### 14.1 Shipping description

CFR Non-regulated

TDG Non-regulated

IMO/IMDG Non-regulated

IATA (Cargo) Non-regulated

**Special precautions for user : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.'**

## Section 15 - Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or Mixture

**United States - TSCA 12(b) - Chemical export notification:** None required.

**United States - TSCA 5(a)2 - Final significant new use rules:** Not listed

**United States - TSCA 5(a)2 - Proposed significant new use rules:** Not listed

**United States - TSCA 5(e) - Substances consent order:** Not listed

**Australia inventory (AICS):** All components are listed or exempted.

**Canada inventory:** All components are listed or exempted.

**Japan inventory:** All components are listed or exempted.

**China inventory (IECSC):** All components are listed or exempted.

**Korea inventory:** All components are listed or exempted.

**New Zealand Inventory (NZIoC):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.

**United States inventory (TSCA 8b):** All components are listed or exempted.  
**Taiwan inventory (CSNN):** All components are listed or exempted.

**SARA Title III Section 313 (40CFR372):** No reportable components

**CERCLA Status (40CFR302):** No Reportable Quantity components

**TSCA Inventory Status:** Reported/included

**Canadian DSL Status:** Reported/included

**Canadian WHMIS Classification:** D2B

**Canadian NPRI :** None required.

**CEPA Toxic substances :** None required

**Chemicals Known to the State of California to Cause Cancer or Reproductive Toxicity:** This product contains Epichlorohydrin CAS# 106-89-8 (trace amount).

#### **REACH Annex XIV (SVHC)**

No listed components

#### **REACH Annex XVII (Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles)**

No listed components

**REACH Status (EC 1907/2006):** This material has been registered, pre-registered or is otherwise exempted from registration under the Registration, Evaluation and Authorization of Chemical Substances.

#### **Chemical safety assessment**

Not available

## Section 16 - Other Information

#### **HMIS ratings:**

Health: **2**

Flammability: **1**

Reactivity: **0**

(Personal protective equipment selection is best assigned by the user after performing a hazard assessment on the product as it is to be used in the specific work process.)

#### **Synonyms:**

Phenol, polymer with formaldehyde, glycidyl ether;

Phenol-formaldehyde polymer, oxiranymethyl ether;

Glycidyl epoxy Novolac resin.

#### **Abbreviations**

ACGIH American Conference of Governmental Industrial Hygienists

ADR

International carriage of dangerous goods by Road

AICS Australian Inventory of Chemical Substances

BfR Bundesinstitut für Risikobewertung recommendations for food contact materials

BCF Bioconcentration Factor

CERCLA Comprehensive Environmental Response, Compensation and Liability Act

CLP Classification, Labeling and Packaging regulation

DOT Department of Transportation

DSL Domestic Substances List

EINECS European Inventory of Existing Chemical Substances

ECL Existing Chemicals List (Korea)

ENCS Existing and New Chemical Substances Inventory (Japan)

EN 689 Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy

ERG Emergency Response Guide

GHS Globally Harmonized System  
HMIS Hazardous Materials Information System  
IARC  
International Agency for Research on Cancer  
IATA  
International Air Transport Association  
ICAO  
International Civil Aviation Organization  
IDLH  
Immediately Dangerous to Life and Health  
IMDG  
International Maritime Dangerous Goods  
LD50 Lethal dose to 50% of test animal population  
MAK Maximale Arbeitsplatz Konzentration  
NOAEL No observable adverse effect level  
NTP National Toxicology Program  
OEL Occupational Exposure Limit  
OSHA Occupational Safety & Health Administration  
PBT Persistent, Bio accumulative and Toxic  
vPvB Very Persistent and Very Bio accumulative  
PEL Permissible exposure limit  
PICCS Philippine Inventory of Commercial Chemical Substances  
PNEC Predicted No Effect Concentration  
REACH Registration, evaluation and authorization of chemical substances  
RID  
International carriage of dangerous goods by Rail  
SARA Superfund Amendments and Reauthorization Act  
STEL Short Term Exposure Limit  
SVHC Substance of Very High Concern  
TLV  
Threshold Limit Value  
TSCA Toxic Substances Control Act  
TWA Time Weighted Average  
VOC Volatile organic compound  
WGK Wassergefährdungsklasse (Water Hazard Class)  
WHMIS Workplace Hazardous Material Identification System

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