



MATERIAL SAFETY DATA SHEET

Revision Date: 05/09/2013

Date Issued: 05/09/2013

ADVANCE® 360 A

I. PRODUCT AND COMPANY IDENTIFICATION

NAME: ADVANCE® 360 A
PRODUCT CLASS: BISPHENOL "A"
CHEMICAL FAMILY: EPOXY
SALUD: DANGEROUS.

INFORMATION

MANUFACTURER/SUPPLIER: EL NERVION S.A DE C.V.
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MÉXICO
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II. COMPOSITION/INFORMATION ON INGREDIENTS

ITEM	COMPONENTS	CAS NUMBER	CONCENTRATION [%]
01	EPOXY RESIN	25085-99-8	23.0
02	2-PROPANOL-1-METHOXY ACETATE	108-65-6	2.5
03	METHYL TOLUENE	1330-20-7	0.5
04	N-OCTYL	N/D	6.0
05	DEGASSING BASE FOR WATER	N/D	0.3
06	WATER	9430-46-1	37.0
07	WIDE RANGE BIOCIDA	26172-55-4	0.09
08	PASTA COLOUR CONCENTRATED	VARIOUS	30.61

III. HAZARDS IDENTIFICATION

Emergency Over

Physical Appearance

Form: Liquid
Color: Pigmented
Odor: Characteristic
Solubility in water: Partially soluble
pH: N.D.

EFFECTS OF EXPOSURE: Flammable. They could be freed toxic gases / vapors during combustion and / or thermal decomposition. A closed container can explode with extreme heat. Use cold water spray to cool fire containers to minimize risk of rupture. Vapors



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or mist may present a risk of fire and explosion when exposed to extreme heat or ignition. Vapors may travel to areas outside the work place before turning on / back to vapor source. Landing containers and equipment before making the transfer to avoid static sparks. It has been associated with prolonged and repeated occupational exposure to solvents with brain and nervous system permanently. Intentional misuse by deliberately concentrating or inhaling solvents can be harmful or fatal. Causes respiratory tract irritation. May cause allergic respiratory reactions. Harmful if inhaled. Airways. The damage to the lungs and respiratory sensitization may be permanent. Cause skin irritation. May cause allergic skin reaction. Skin sensitizer.

Potential Health Effects

The EXPOSURE (prolonged or repeated use) may aggravate or accentuate any of these effects.

SKIN CONTACT: Irritating. May cause drying and irritation of the skin, prolonged and repeated exposure can cause dermatitis.

INHALATION: Irritating. Excessive exposure to vapors or mist is irritating to the respiratory tract.

EYE CONTACT: Irritating. Cause eye burns. It can cause blindness. Severe eye irritation.

INGESTION: Gastrointestinal irritation may occur, do not induce vomiting and give medical attention immediately.

MEDICAL CONDITIONS AGGRAVATED: Eye, skin disease and allergies. Adverse effects on the skin (such as rash, irritation or corrosion). Adverse ocular effects (such as conjunctivitis or corneal damage). Asthma. Adverse respiratory effects (such as cough, chest tightness or difficulty breathing).

PRIMARY ROUTE (S) OF ENTRY: Skin contact, Inhalation, Contact, Ingestion, Eyes.

IV. FIRST AID MEASURES

GENERAL ADVICE

Consult a doctor. If breathing has stopped or is labored, give assisted respirations. Supplemental oxygen may be indicated. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation immediately.

Inhalación

If inhalation of mists or spray, turn the person and take it to a cool place. Appearance of any inconvenience that include severe irritation of the mucus lining (nose, throat and eyes), sneezing, coughing and flow of the tears. In case of persistent discomfort, seek medical attention immediately. If breathing has stopped or is labored give assisted respirations, supplemental oxygen may be indicated. If the



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heart has stopped trained personnel should begin CPR immediately, move to a place with fresh air.

Skin Contact

Immediately remove all contaminated clothing and strange chemical if possible to do so without delay. Rinse immediately with plenty of water for at least 20 minutes. Cover wound with sterile gauze. Remove contaminated clothing and shoes.

Eye Contact:

In case of contact, immediately flush eyes with water for at least 15 minutes, or if necessary with an eyewash solution. If you have persistent discomfort, consult an ophthalmologist.

Ingestion

Malaise if medical attention immediately. Do not induce vomiting. If the person vomits and is lying on her back, will be placed in recovery position to avoid aspiration of vomit, turn the victim's head to one side.

V. FIRE-FIGHTING MEASURES

FLASH POINT:	485,6°F (252°C) References (Pensky-Martens Closed Cup ASTM D 93)
LOWER EXPLOSIVE LIMIT:	Not applicable
UPPER EXPLOSIVE LIMIT:	Not applicable
AUTOIGNITION TEMPERATURE:	Not applicable
FLAMMABLE-OSHA:	COMBUSTIBLE - CLASS II
CLASSIFICATION FLAMMABILITY-OSHA:	FLAMMABLE LIQUID

EXTINGUISHING MEDIA: Alcohol resistant foam, carbon dioxide, dry chemical, water fog (water spray for large fires), dry sand, limestone powder.

SPECIFIC RISKS FIRE FIGHTING: In case of fire, cool containers at risk with water. Closed containers may explode if heated strongly. Flammable liquid. Vapors can travel to an ignition source and generate a setback. Explosive mixtures are formed at temperatures at or above the flash point. The staff at risk is downwind should be evacuated.

EXTINGUISHING MEDIA SHOULD NOT BE USED FOR SAFETY: Not applicable.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS: As in any fire, wear self-contained positive-pressure breathing apparatus (MSHA / NIOSH approved or equivalent) and full protective gear.

HAZARDOUS DECOMPOSITION CAUSED BY: Incomplete combustion can generate carbon monoxide, carbon dioxide, toxic gases or fumes.

FLAMMABLE CLASSIFICATION-OSHA: Combustible liquid, Class II.



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VI. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS: Wear appropriate protective clothing, gloves and eye / face. Use SCBA and chemical protective clothing. Evacuate personnel to safer areas.

WHAT TO DO IN CASE OF SPILL: Ventilate the area, remove or remove possible sources of sparks or flame and stir-absorbent inert material.

WHAT TO DO IN CASE OF SPILL:

- ◆ **SMALL SPILL:** Absorb liquid on paper, vermiculite, FLOORS OR OTHER ABSORBENT MATERIAL ABSORBING AND DISPOSE IN THE PROPER LINK.
- ◆ **LARGE SPILL:** REMOVE ALL SOURCES OF IGNITION. PEOPLE WITHOUT PROTECTIVE EQUIPMENT SHOULD BE EXCLUDED BECAUSE OF THE SPILL AREA UNTIL YOU HAVE BEEN COMPLETELY CLEAN. STOP THE SOURCE OF SPILL, BUILD A DAM ABOUT THE SPILL AREA TO PREVENT SPREAD THE SPILL IS. PUMPING LIQUID TANK FOR FREE. COLLECT LEAKING LIQUID WHICH HAS BEEN IMPREGNATED WITH SAND, EARTH AND DEPOSIT FLOOR ABSORBENT IN A CONTAINER. REMAINS WILL PREVENT THE STREAMS OR OTHER BODIES OF WATER. IF A LEAK OCCURS, NOTIFY AUTHORITIES FOR THAT A SPILL HAS OCCURRED.

WASTE DISPOSAL METHOD:

◆ **SMALL SPILL:** ALLOW VOLATILE evaporate PARTIES, TAKING THE TIME TO ENOUGH VAPORS ARE COMPLETELY DISSIPATED. HAVE THE REMNANTS OF MATERIAL IN ACCORDANCE WITH APPLICABLE REGULATIONS.

LARGE SPILL: DESTROY BY BURNING LIQUID. CONTAMINATED ABSORBENT MATERIAL IN A LANDFILL DEPOSIT ACCORDING TO LOCAL, STATE AND FEDERAL REGULATIONS.

VII. HANDLING AND STORAGE

HANDLING

General procedure for handling

Tips for safe handling: Wear respiratory protection when applying spray. Ensure adequate ventilation.
Use only in well ventilated areas. Avoid breathing vapors or aerosols. Avoid contact with skin and eyes. Emergency showers and eyewash stations should be readily accessible.
They obey and follow their rules work practices established by government regulations.

Avoid contact with eyes. Use personal protective equipment.
When using the material NOT EAT, DRINK OR SMOKE.



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Advice on protection against fire and explosion: Take necessary action to avoid static charges, keep away from ignition sources.

STORAGE

Requirements for storage areas and containers.

Keep containers tightly closed in a cool, dry, well-ventilated area.

life:

6 months @ 77°F (25°C): After date of manufacture.

Additional information

Keep tightly sealed in its original packaging, do not store in plastic containers.

VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures

Provide good ventilation if vapors / spray form.

Provide natural ventilation or explosion proof adequate to ensure that concentrations are kept below the limit of exposure.

Personal Protective Equipment

General precautions: Avoid contact with eyes and skin.

Hygiene measures: Do not smoke, eat or drink while using this product.
Wash hands before breaks and after work shift or using the Toilet.

Respiratory Protection: Wear appropriate respirator when ventilation is inadequate. In case of vapor / aerosols: Team respiratory protection, cartridges for organic gases and vapors.

Hand Protection: Gloves made of butyl (IIR)
Neoprene gloves
Natural gloves
The brekthrough time of gloves selected must be greater than the period of use provided.

Eye Protection: Safety glasses should be worn resistant.

Protective Clothing: Light protective clothing is required.



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IX. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Slightly viscous liquid
Color:	Pigmented
Odor:	Characteristic
Solubility in water:	Soluble
pH:	Not determined
Melting Point:	Not applicable
Boiling point:	>100 bibliography
Vapor pressure:	<0.01 mmHg a 68°F (20°C) References
Flah point:	485,6°F (252°C) PMCC ASTM D 93
Density:	1.0500 - 1.2500 g/cm ³
Viscosity:	400 - 1,400 cPs

X. STABILITY AND REACTIVITY

Thermal decomposition: Descomposition products depend on the temperature, the air supply and the presence of other materials. Gases released during the decomposition. An uncontrolled exothermic reaction epoxy resins free phenolic compounds, carbon monoxide and water.

Hazardous reactions: No hazardous reactions known if handled and stores the material properly.

Hazardous Polymerization: Not

Stability: This product is stable under normal conditions storage.

Hazardous decomposition

products (BY FIRE, BURN OR WELDING): During a fire, smoke may contain material original products with combustion of varying composition which can be toxic and / or irritants. Combustion products may include, but not limited to: Compounds phenolics. Carbon monoxide. Carbon dioxide (CO₂).

Materials to avoid: Avoid contact with oxidizing materials. Avoid contact with: Acids. Bases. Avoid contact accidental amines.

Conditions to Avoid: Heat, open flame, electric arc and sparks.

Hazardous reactions: Not determined.



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XI. TOXICOLOGICAL INFORMATION

LD50 (ACUTE ORAL TOX): LD50 is estimated to be over 5,000 mg / kg (rats)
LD50 (ACUTE DERMAL TOX): LD50 is estimated to be over 20,000 mg / kg (rabbits)
LD50 (ACUTE INHALATION TOX): Not determined
EFFECTS OF CHRONIC EXPOSURE: No Available.

AWARENESS: Dermal: Data presented refer to the compound following: epoxy resin. Reactions caused Allergic skin tests on guinea pigs. Inhalations: No information found significant.

CARCINOGENICITY: Many studies have been conducted to assess the potential carcinogenicity of diglycidyl ether of bisphenol A (DGEBA). In fact, the most recent available data by the Agency Research on Cancer (IARC) has concluded that DGEBA is not classified as a carcinogen. Although some weak evidence of cancer has reported in animals, when considering all data, the weight of the evidence indicates that the DGEBA is carcinogenic.

REPRODUCTIVE TOXICITY: Based on information about (the) component (s); in animal studies, did not interfere with the playback.

TERATOGENICITY: Some resins have shown some toxicity gene in vitro assays, while others no. The data presented are for the material following genetic toxicity studies in vitro were negative. For components tested: The genetic toxicity studies animals were negative.

MUTAGENICITY: Some resins have shown similar toxicity gene in vitro assays, while others no. The data presented are for the material following genetic toxicity gene in vitro were negative. For components tested: The genetic toxicity studies animals were negative.

XII. ECOLOGICAL INFORMATION

Movement & partitioning

Bioconcentration potential is moderate (BCF between 100 and 3000 or log pow between 3 and 5). Potential for mobility in soil is low (Koc between 500 and 2000).

Constant Henry's Law: $<6.94 \text{ E-}09 \text{ atm} \cdot \text{m}^3 / \text{mol}, 25 \text{ }^\circ\text{C}$ Estimate

Partition coefficient, soil organic carbon / water (Koc): 1800 - 4400 Estimate



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Persistence and degradability

Based on stringent OECD test guidelines, this material can not be considered as readily biodegradable, however, these results do not necessarily mean that the material is not biodegradable under environmental conditions.

Biodegradation tests (OECD):

Biodegradation	Shutter speed	Methodology
12.00%	28 d	Ensayo OCDE 302B

Data for Component: Polymer with 2,2 '- [(1-methylethylidene) bis (4,1-fenilenoximetilen)] bis [oxirane) and 4,4 '- (1-methylethylidene) bisphenol (DGE BPA based polymer).

Not expected to be acutely toxic, but may cause adverse effects by means physical and / or mechanical.

Ecotoxicity

Data for Component: Polymer with 2,2 '- [(1-Methylethylidene) bis (4,1-fenilenoximetilen)] bis (oxirane) and 4,4 '- (1-methylethylidene) bisphenol (DGE BPA based polymer)
Upon exposure to sunlight surface photodegradation is expected. No appreciable biodegradation is expected.

The product is moderately toxic to aquatic organisms on an acute LC50/EC50 between 1 and 10 mg / l for most test with the most sensitive species. Acute aquatic toxicity is above the water solubility limit.

Acute & proploged toxicity in fish

CL50 fathead minnow (Pimephales promelas), 96 h: 3.1 mg / l

Acute toxicity to aquatic invertebrates

CE50, water flea Daphnia magna, 48 h, lethality: 1.4 to 1.7 mg / l

Toxicity to microorganisms

CI50; bacteria growth inhibition, 18 h:> 42.6 mg / l

XIII. DISPOSAL CONSIDERATIONS

The arrangement shall be in accordance with federal environmental control laws, state and local existents. Incineration is the preferred method.

Provision of products and

requirements for disposal: In accordance with local standards, will be the incineration of hazardous waste.



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Contaminated Packaging: Empty containers with product residues; observe all precautions for the product. Not Hot or cut empty containers with solder electric or gas because they are vapors and gases highly toxic. If empty contaminated containers are recycled or disposed of, the receiver must be informed about potential hazards.

HOT OR NOT CUT THE EMPTY CONTAINERS OR WITH ELECTRIC WELDING GAS TORCH.

XIV. TRANSPORT INFORMATION

DOT (LAND TRANSPORT)

Shipping name:	ADVANCE® 360 A
Class:	3
UN NUMBER/No. ID:	1263
Packing Group:	III
Risk Label:	3

IATA/ICAO (AIRCRAFT)

Shipping name:	ADVANCE® 360 A
Class:	3
UN NUMBER/No. ID:	1263
Packing Group:	III
Risk Label:	3

IMDG/IMO (SHIPPING)

Shipping name:	ADVANCE® 360 A
Class:	3
UN NUMBER/No. ID:	1263
Packing Group:	III
Risk Label:	3

XV. REGULATORY INFORMATION

Federal Regulations of the United States

Standard classification Hazard Communication OSHA:	Dangerous
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HMIS RATINGS

XVI. OTHER INFORMATION

NFPA RATING

NFPA RATINGS 704M

HEALTH: 1
FLAMMABLE: 1
REACTIVITY: 2
OTHER: G

HMIS RATING

HEALTH: 2
FLAMMABILITY: 3
PHYSICAL HAZARD: 0

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme

0 = Insignificant
1 = Slight
2 = Moderate
3 = High
4 = Extreme
* = Chronic Hazard for Health.

AND ALL THIS INFORMATION IS FURTHER TECHNICAL ADVICE BASED ON CURRENT KNOWLEDGE AND EXPERIENCE SA DE CV NERVION BELIEVED TO THIS INFORMATION IS ACCURATE TO THE DATE OF PUBLICATION BY THE BEST KNOWLEDGE OF NERVION SA DE CV THE INFORMATION PROVIDED IS INTENDED ONLY AS A GUIDE FOR SAFETY, USE, PROCESSING, STORAGE, TRANSPORTATION, DISPOSAL AND DOWNLOAD AND NOT TO BE CONSIDERED AS A GUARANTEE OR SPECIFICATION OF QUALITY. INFORMATION REFERRED TO IN SPECIFIC DESIGNATED MATERIAL AND IS NOT VALID FOR SUCH MATERIALS USED IN COMBINATION WITH ANY OTHER MATERIALS OR PROCESS UNLESS SPECIFIED IN THIS INFORMATION COME. RESPONSIBILITY AND LIABILITY IS THE CUSTOMER'S inspection and testing RECEIVE ANY PRODUCT. HOWEVER, SA DE CV NERVION ASSUMES NO LIABILITY WHATSOEVER FOR THE USE OF CONFIDENCE DO THIS INFORMATION HDS.

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