

**Safety Data Sheet****NVA398 ENVIROLINE 376F-60 GREEN PART A****Version No. 2 Revision Date 10/31/18****1. Product and company identification****1.1. Product identifier** ENVIROLINE 376F-60 GREEN PART A

Product Code NVA398

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

Intended use Refer Technical Data Sheet.

For professional use only.

Application Method Refer Technical Data Sheet.

**1.3. Details of the supplier of the safety data sheet****Importer or****Manufacturer**

International Paint Sdn Bhd

International Paint Singapore Pte Ltd

3 Neythal Road

Jurong Town

Singapore 628570

**Telephone No.** +65 6261 5033**Fax No.** +65 6264 4612**1.4. Emergency telephone number (24 hour)** +65 6261 5033**For Poisons Advice telephone** For Advice to Doctors & Hospitals only**2. Hazard identification of the product****2.1. Classification of the substance or mixture**

Skin Irrit. 2;H315 Causes skin irritation.

Eye Irrit. 2;H319 Causes serious eye irritation.

Skin Sens. 1;H317 May cause an allergic skin reaction.

Aquatic Chronic 2;H411 Toxic to aquatic life with long lasting effects.

**2.2. Label elements**

Using the Toxicity Data listed in section 11 &amp; 12 the product is labelled as follows.

**Warning**

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.

**[Prevention]:**

P210 Keep away from heat / sparks / open flames / hot surfaces - No smoking.

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

P264 Wash 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.

**[Response]:**

P302+352 IF ON SKIN: Wash with soap and water.

P305+351+338 IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P312 Call a POISON CENTER or doctor / physician if you feel unwell.

P321 Specific treatment (see information on this label).

P333+313 If skin irritation or a rash occurs: Get medical advice / attention.

P337 If eye irritation persists:

P362 Take off contaminated clothing and wash before reuse.

P363 Wash contaminated clothing before reuse.

P370+378 In case of fire: Use alcohol resistant foam, CO<sub>2</sub>, powder, water spray for extinction. Do not use water jet.

P391 Collect spillage.

**[Storage]:**

P403+235 Store in a well ventilated place. Keep cool.

**[Disposal]:**

P501 Dispose of contents / container in accordance with local / national regulations.

**2.3. Other hazards**

This product contains no PBT/vPvB chemicals.

**3. Composition/information on ingredients**

This product contains the following hazardous substances.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
Epoxy Resin CAS Number: 0025068-38-6	30 - ≤ 60%	Eye Irrit. 2;H319 Skin Irrit. 2;H315 Skin Sens. 1;H317 Aquatic Chronic 2;H411	[1]
Bisphenol F epoxy resin (MWt <700) CAS Number: 0028064-14-4	10 - ≤ 30%	Skin Irrit. 2;H315 Eye Irrit. 2;H319 Skin Sens. 1;H317 Aquatic Chronic 2;H411	[1]
Bisphenol F-epoxy resin (av.mol.wt<700) CAS Number: 0009003-36-5	1 - ≤ 3%	Skin Irrit. 2;H315 Eye Irrit. 2;H319 Skin Sens. 1;H317 Aquatic Chronic 2;H411	[1]
Oxirane, 2,2'-[1,4-butanediylbis (oxymethylene)]bis- CAS Number: 0002425-79-8	1 - ≤ 3%	Acute Tox. 4;H332 Acute Tox. 4;H312 Eye Irrit. 2;H319 Skin Irrit. 2;H315 Skin Sens. 1;H317	[1]
Cardenol CAS Number: 0008007-24-7	1 - ≤ 3%		[1]
Aluminium oxide	1 - ≤ 3%		[1][2]

CAS Number: 0001344-28-1			
Alkyl(C12-C14)glycidyl ether CAS Number: 0068609-97-2	<1%	Skin Irrit. 2;H315 Skin Sens. 1;H317	[1]

[1] Substance classified with a health or environmental hazard.

[2] Substance with a workplace exposure limit.

[3] PBT-substance or vPvB-substance.

\*The full texts of the Hazard (H) phrases are shown in Section 16.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence do not require reporting in this section.

## 4. First aid measures

### 4.1. Description of first aid measures

#### General

In all cases of doubt, or when symptoms persist, seek medical attention.

Never give anything by mouth to an unconscious person.

#### Inhalation

Remove to fresh air, keep patient warm and at rest. If breathing is irregular or stopped, give artificial respiration. If unconscious place in the recovery position and obtain immediate medical attention. Give nothing by mouth.

#### Skin Contact

Remove contaminated clothing. Wash skin thoroughly with soap and water or use a recognised skin cleanser. Do NOT use solvents or thinners.

#### Eye Contact

Irrigate copiously with clean fresh water for at least 10 minutes, holding the eyelids apart and seek medical attention.

#### Ingestion

If accidentally swallowed obtain immediate medical attention. Keep at rest. Do NOT induce vomiting.

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

No data available

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

No data available

## 5. Fire-fighting measures

### 5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO2, powder, water spray.

Do not use - water jet.

Note; Fire will produce dense black smoke. Decomposition products may be hazardous to health. Avoid exposure and use breathing apparatus as appropriate.

Cool closed containers exposed to fire by spraying them with water. Do not allow run off water and contaminants from fire fighting to enter drains or water courses.

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

Fire will produce dense black smoke. Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Avoid exposure and use breathing apparatus as appropriate.

## **5.3. Advice for fire-fighters**

Cool closed containers exposed to fire by spraying them with water. Do not allow run off water and contaminants from fire fighting to enter drains or water courses.

# **6. Accidental release measures**

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

Ventilate the area and avoid breathing vapours. Take the personal protective measures listed in section 8.

Contain and absorb spillage with non-combustible materials e.g. sand, earth, vermiculite. Place in closed containers outside buildings and dispose of according to relevant State and Federal regulations. (See section 13).

Clean, preferably with a detergent. Do not use solvents.

Do not allow spills to enter drains or watercourses.

If drains, sewers, streams or lakes are contaminated, inform the relevant Environment Protection Agency.

Empty containers may contain product residues, including flammable or explosive vapours. Do not cut, puncture or weld on or near containers. All label warnings must be observed until the containers have been cleaned or reconditioned.

## **6.2. Environmental precautions**

Do not allow spills to enter drains or watercourses.

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

Ventilate the area and avoid breathing vapours. Take the personal protective measures listed in section 8.

Contain and absorb spillage with non-combustible materials e.g. sand, earth, vermiculite. Place in closed containers outside buildings and dispose of according to the Waste Regulations. (See section 13).

Clean, preferably with a detergent. Do not use solvents.

Do not allow spills to enter drains or watercourses.

If drains, sewers, streams or lakes are contaminated, inform the local water company immediately. In the case of contamination of rivers, streams or lakes the Environmental Protection Agency should also be informed.

# **7. Handling and storage**

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

### **Handling**

This coating contains solvents. Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air. Areas of storage, preparation and application should be ventilated to prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentrations higher than the occupational exposure limits.

### **In Storage**

Handle containers carefully to prevent damage and spillage.

Naked flames and smoking should not be permitted in storage areas. It is recommended that fork lift trucks and electrical equipment are protected to the appropriate standard.

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

Keep away from the following materials: oxidising agents, strong alkalis, strong acids.

Avoid skin and eye contact. Avoid inhalation of vapours and spray mists. Observe label precautions. Use personal protection as shown in section 8.

Smoking, eating and drinking should be prohibited in all preparation and application areas.

Never use pressure to empty a container; containers are not pressure vessels.

There are no exposure scenarios, see details in section 1.

## 7.3. Specific end use(s)

Store in a well ventilated, dry place away from sources of heat and direct sunlight.

Store on concrete or other impervious floor, preferably with bunding to contain any spillage. Do not stack more than 3 pallets high.

Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in the original container or one of the same material.

Prevent unauthorised access.

# 8. Exposure controls and personal protection

## 8.1. Control parameters

Exposure standards are those provided by the ACGIH (American Conference of Government Industrial Hygienists).

Material	Short term (15 min. ave)		Long term (8hr time weighted average)		Comments
	ppm	mg/m <sup>3</sup>	ppm	mg/M3	
Mica	-	-	-	3	

Key to notification

(P) Peak exposure limit

(R) Suppliers Recommended Limit

(Sk) There is a risk of absorption through unbroken skin

(Sen) Sensitiser

(Cat1) Category 1 - established human carcinogen

(Cat2) Category 2 - probable human carcinogen

(Cat3) Category 3 - substances suspected of having carcinogenic potential

## DNEL/PNEC values

No Data Available

## 8.2. Exposure controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and any vapour below occupational exposure limits suitable respiratory protection must be worn.

## Eye Protection

Wear safety eyewear, e.g. safety spectacles, goggles or visors to protect against the splash of liquids. Eyewear should comply with an approved standard.

Wear a full face shield if mixing or pouring operations pose a risk of splashes.

An eye wash station is suggested as a good work place practice.

### **Skin Protection**

Gloves of an appropriate material should be worn during mixing and application.

### **Other**

Overalls which cover the body, arms and legs should be worn. Skin should not be exposed. Barrier creams may help to protect areas which are difficult to cover such as the face and neck. They should however not be applied once exposure has occurred. Petroleum jelly based types such as Vaseline should not be used. All parts of the body should be washed after contact.

### **Respiratory Protection**

When concentrations exceed the exposure limits shown above, workers must wear appropriate approved respirators. Provision of other controls such as exhaust ventilation should be considered if practical.

### **Thermal hazards**

No Data Available

## **9. Physical and chemical properties**

<b>Appearance</b>	Green Liquid
<b>Odour</b>	Smell of Solvent
<b>Odour threshold</b>	Not Measured
<b>pH</b>	N/A
<b>Melting point / freezing point (°C)</b>	Not Measured
<b>Initial boiling point and boiling range (°C)</b>	
<b>Flash Point (°C)</b>	82
<b>Evaporation rate (Ether = 1)</b>	Not Measured
<b>Flammability (solid, gas)</b>	Not Applicable
<b>Upper/lower flammability or explosive limits</b>	Lower Explosive Limit: .8 Upper Explosive Limit: 7
<b>Vapour pressure (Pa)</b>	Not Measured
<b>Vapour Density</b>	Heavier than air.
<b>Specific Gravity</b>	1.53
<b>Solubility in Water</b>	Immiscible
<b>Partition coefficient n-octanol/water (Log Kow)</b>	Not Measured
<b>Autoignition temperature (°C)</b>	Not Measured
<b>Decomposition temperature</b>	Not Measured
<b>Viscosity (cSt)</b>	N/A

### **9.2. Other information**

No further information

## **10. Stability and reactivity**

### **10.1. Reactivity**

No data available

### **10.2. Chemical stability**

Stable under recommended storage and handling conditions (see section 7). When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide, carbon dioxide, oxides of nitrogen and smoke.

Keep away from oxidising agents, strongly alkaline and strongly acid materials in order to avoid possible exothermic reactions.

### 10.3. Possibility of hazardous reactions

May react exothermically with: oxidising agents, strong alkalis, strong acids.

### 10.4. Conditions to avoid

Stable under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Keep away from the following materials: oxidising agents, strong alkalis, strong acids.

### 10.6. Hazardous decomposition products

Fire will produce dense black smoke. Decomposition products may include the following materials: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Avoid exposure and use breathing apparatus as appropriate.

## 11. Toxicological information

### Acute toxicity

Exposure to solvent vapour concentrations from the component solvents in excess of the stated occupational exposure limits may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Symptoms include headache, nausea, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.

Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in dryness, irritation and possible non-allergic contact dermatitis. Solvents may also be absorbed through the skin. Splashes of liquid in the eyes may cause irritation and soreness with possible reversible damage.

Based on the properties of the epoxy constituents and considering toxicological data on similar preparations this preparation may be an irritant and a skin and respiratory sensitiser. Low molecular weight epoxy constituents are irritating to eyes, mucous membranes and skin. Repeated skin contact may lead to irritation and sensitisation, possibly with cross-sensitisation to other epoxies.

The preparation has been assessed using the Acute Toxicity Data listed below, and classified for toxicological hazards accordingly. See section 2 for details.

Ingredient	Oral LD50, mg/kg	Skin LD50, mg/kg	Inhalation Vapour LD50, mg/L/4hr	Inhalation Dust/Mist LD50, mg/L/4hr
Alkyl(C12-C14)glycidyl ether - (68609-97-2)	Not Available	Not Available	Not Available	Not Available
Aluminium oxide - (1344-28-1)	5,000.00, Rat	Not Available	Not Available	Not Available
Bisphenol F epoxy resin (MWt <700) - (28064-14-4)	2,000.00, Rat	Not Available	Not Available	Not Available
Bisphenol F-epoxy resin (av.mol.wt<700) - (9003-36-5)	Not Available	Not Available	Not Available	Not Available
Cardenol - (8007-24-7)	2,000.00, Rat	Not Available	Not Available	Not Available
Epoxy Resin - (25068-38-6)	2,000.00, Rat	2,000.00, Rabbit	Not Available	Not Available
Oxirane, 2,2'-[1,4-butanediylbis (oxymethylene)]bis- - (2425-79-8)	1,134.00, Rat	1,130.00, Rabbit	Not Available	Not Available

Item	Category	Hazard
Acute Toxicity (mouth)	Not Classified	Not Applicable

Acute Toxicity (skin)	Not Classified	Not Applicable
Acute Toxicity (inhalation)	Not Classified	Not Applicable
Skin corrosion/irritation	2	Causes skin irritation.
Eye damage/irritation	2	Causes serious eye irritation.
Sensitization (respiratory)	Not Classified	Not Applicable
Sensitization (skin)	1	May cause an allergic skin reaction.
Germ toxicity	Not Classified	Not Applicable
Carcinogenicity	Not Classified	Not Applicable
Reproductive Toxicity	Not Classified	Not Applicable
Specific target organ systemic toxicity (single exposure)	Not Classified	Not Applicable
Specific target organ systemic Toxicity (repeated exposure)	Not Classified	Not Applicable
Aspiration hazard	Not Classified	Not Applicable

## 12. Ecological information

### 12.1. Toxicity

The preparation has been assessed according to the GHS criteria and is classified as dangerous for the environment, using the toxicity data listed below.

There are no data available on the product itself.

The product should not be allowed to enter drains or water courses.

### Aquatic Ecotoxicity

Ingredient	96 hr LC50 fish, mg/l	48 hr EC50 crustacea, mg/l	ErC50 algae, mg/l
Epoxy Resin - (25068-38-6)	3.10, Pimephales promelas	1.40, Daphnia magna	Not Available
Bisphenol F epoxy resin (MWt <700) - (28064-14-4)	9.00, Oncorhynchus mykiss	9.00, Daphnia magna	Not Available
Bisphenol F-epoxy resin (av.mol.wt<700) - (9003-36-5)	Not Available	Not Available	Not Available
Oxirane, 2,2'-[1,4-butanediylbis (oxymethylene)]bis- - (2425-79-8)	24.00, Danio rerio	75.00, Daphnia magna	Not Available
Cardenol - (8007-24-7)	Not Available	Not Available	Not Available
Aluminium oxide - (1344-28-1)	Not Available	Not Available	Not Available
Alkyl(C12-C14)glycidyl ether - (68609-97-2)	Not Available	Not Available	Not Available

### 12.2. Persistence and degradability

There is no data available on the preparation itself.

### 12.3. Bioaccumulative potential

Not Measured

### 12.4. Mobility in soil

No data available

### 12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

### 12.6. Other adverse effects

No data available



## 13. Disposal considerations

### 13.1. Waste treatment methods

Do not allow into drains or water courses. Wastes and empty containers should be disposed of in accordance with State and Federal regulations.

Using information provided in this data sheet advice should be obtained from the local Waste Regulation Authority as to whether special waste regulations apply.

## 14. Transport information

**14.1. UN number** 3082

**14.2. UN proper shipping name** 3082 Environmentally Hazardous Substance N.O.S. (contains liquid epoxy resins)

**14.3. Transport hazard class(es)**

**Road and Rail Transport** UN3082, 環境危害物質, N.O.S (含液態環氧樹脂), 第 9 級, 包裝等級 III, 危害化學品 .3Z

IMDG reference :	Class/Div 9	Sub Class
------------------	-------------	-----------

Ems	F-A,S-F
-----	---------

ICAO/IATA	Class 9	Sub Class
-----------	---------	-----------

**14.4. Packing group** III

**14.5. Environmental hazards**

**Road and Rail Transport** Environmentally Hazardous: Yes

**IMDG reference :** Marine Pollutant: Yes ( Epoxy Resin )

**14.6. Special precautions for user**  
No further information

**14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**  
Not Applicable

## 15. Regulatory information

This product and all its components complies with the chemical and transport regulations from the country listed in section 1.3.

Other regulatory information specific to the hazardous chemical(s):

None noted.

## 16. Other information

The information on this SDS is based upon the present state of our knowledge and on current law. The product should not be used for purposes other than shown in the product data sheet without first obtaining written advice.

It is always the responsibility of the user to take all necessary steps to meet the demands of applicable legislation.

The information in this Safety Data Sheet is required according to legislation.

The full text of the phrases appearing in section 3 is:

H312 Harmful in contact with skin.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H332 Harmful if inhaled.

H411 Toxic to aquatic life with long lasting effects.

**This SDS is valid for 5 years from the revised date on page 1.  
The revision date is in American format (e.g. MM/DD/YY).**

End of document



All information concerning this product and/or suggestions for handling and use contained herein are offered in good faith and are believed to be reliable. Akzo Nobel however makes no warranty as to the accuracy of and/or sufficiency of such information.

*Semua maklumat berkenaan produk ini dan/atau cadangan untuk pengendalian dan penggunaan yang terkandung di sini adalah benar dan boleh dipercayai. Walau bagaimanapun, Akzo Nobel tidak memberi jaminan akan maklumat yang tepat dan/atau mencukupi.*