

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

· **Trade name: EPOLAM 2080 HARDENER (B)**

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

No further relevant information available.

· **Application of the substance / the mixture** Epoxy curing agent

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

· **Manufacturer/Supplier:**

AXSON FRANCE

15 Rue de l'Equerre - F-95310 SAINT OUEN L'AUMONE

Tél. +33 (0)1 34 40 34 60

· **Further information obtainable from:** DPT HSE - +33 (0)1 34 40 34 60 - safety@axson.com

· **1.4 Emergency telephone number:** ORFILA : +33 (0)1 45 42 59 59

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

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

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the CLP regulation.

· **Hazard pictograms**



GHS05 GHS06 GHS08 GHS09

· **Signal word** Danger

· **Hazard-determining components of labelling:**

2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)
diethylmethylbenzenediamine

3-aminomethyl-3,5,5-trimethylcyclohexylamine
Salicylic acid

· **Hazard statements**

H302+H332 Harmful if swallowed or if inhaled.

H311 Toxic in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs through prolonged or repeated exposure.

H410 Very toxic to aquatic life with long lasting effects.

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 1)

Precautionary statements

- P260 Do not breathe dusts or mists.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P310 Immediately call a POISON CENTER/doctor.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

SECTION 3: Composition/information on ingredients

3.2 Chemical characterisation: Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:

CAS: 68479-98-1 EINECS: 270-877-4 Reg.nr.: 01-2119486805-25	diethylmethylbenzenediamine ----- STOT RE 2, H373; Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312; Eye Irrit. 2, H319	25-50%
CAS: 6864-37-5 EINECS: 229-962-1 Reg.nr.: 01-2119497829-12	2,2'-dimethyl-4,4'methylenebis(cyclohexylamine) ----- Acute Tox. 3, H311; Acute Tox. 2, H330; STOT RE 2, H373; Skin Corr. 1A, H314; Eye Dam. 1, H318; Aquatic Chronic 2, H411; Acute Tox. 4, H302	25-50%
CAS: 2855-13-2 EINECS: 220-666-8 Reg.nr.: 01-2119514687-32	3-aminomethyl-3,5,5-trimethylcyclohexylamine ----- Skin Corr. 1B, H314; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Sens. 1, H317; Aquatic Chronic 3, H412	10-25%
CAS: 69-72-7 EINECS: 200-712-3 Reg.nr.: 01-2119486984-17	Salicylic acid ----- Eye Dam. 1, H318; Acute Tox. 4, H302	≤ 2.5%

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

Immediately remove any clothing soiled by the product.
 Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
 Take affected persons out of danger area and lay down.

After inhalation:

Supply fresh air or oxygen; call for doctor.
 In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.
 Cover wound with a sterile dressing.
 Immediate medical treatment necessary. Failure to treat burns can prevent wounds from healing.

After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing: Do not induce vomiting; call for medical help immediately.

4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.

(Contd. on page 3)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 2)

- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
- **5.3 Advice for firefighters**
- **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.
- **Additional information**
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
Mount respiratory protective device.
- **6.2 Environmental precautions:**
Prevent seepage into sewage system, workpits and cellars.
In case of seepage into the ground inform responsible authorities.
- **6.3 Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **Information about fire - and explosion protection: Protect from heat.**
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**
Use only receptacles specifically permitted for this substance/product.
Prevent any seepage into the ground.
- **Information about storage in one common storage facility: Store away from foodstuffs.**
- **Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.**
- **7.3 Specific end use(s) No further relevant information available.**

GB

(Contd. on page 4)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 3)

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.
- **8.1 Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
The usual precautionary measures are to be adhered to when handling chemicals.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
- **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Short term filter device:



Filter A/P2

- **Protection of hands:**



Protective gloves

- **Material of gloves**

Neoprene gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Safety glasses

Tightly sealed goggles

- **Body protection:** Impervious protective clothing

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:

Fluid

(Contd. on page 5)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: **EPOLAM 2080 HARDENER (B)**

(Contd. of page 4)

- Colour:** Amber coloured
- Odour:** Amine-like
- Change in condition**
 - Melting point/freezing point:** NA °C
 - Initial boiling point and boiling range:** >200 °C
- Flash point:** >100 °C
- Ignition temperature:** >300 °C (DIN 51 794)
- Auto-ignition temperature:** Product is not selfigniting.
- Explosive properties:** Product does not present an explosion hazard.
- Density at 20 °C:** 1 g/cm³ (ISO 1675:1985)
- Solubility in / Miscibility with water:** Not miscible or difficult to mix.
- organic solvents:** Soluble in many organic solvents.
- 9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity** No further relevant information available.
- 10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions** Strong exothermic reaction with acids.
- 10.4 Conditions to avoid** No further relevant information available.
- 10.5 Incompatible materials:** No further relevant information available.
- 10.6 Hazardous decomposition products:**
 - Poisonous gases/vapours
 - Corrosive gases/vapours

SECTION 11: Toxicological information

- 11.1 Information on toxicological effects**
- Acute toxicity**
 - Harmful if swallowed or if inhaled.
 - Toxic in contact with skin.

· LD/LC50 values relevant for classification:

68479-98-1 diethylmethylbenzenediamine

Oral	LD50	738 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rat)

6864-37-5 2,2'-dimethyl-4,4'methylenebis(cyclohexylamine)

Oral	LD50	320-460 mg/kg (rat)
Dermal	LD50	200-400 mg/kg (rabbit)
Inhalative	LC50/4 h	0.42 mg/l (rat)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

Oral	LD50	1030 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit)

(Contd. on page 6)

GB

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 5)

- **Primary irritant effect:**
- **Skin corrosion/irritation**
Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
Causes serious eye damage.
- **Respiratory or skin sensitisation**
May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure**
May cause damage to organs through prolonged or repeated exposure.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

68479-98-1 diethylmethylbenzenediamine

LC50 (96h)	>104 mg / l (fish)
LC50 (48h)	0.5 mg/l (daphnia)
	200 mg/l (fish)
EC50 (72h)	104 mg/l (alga)
EC50 (48h)	5.8 mg/l (daphnia)

6864-37-5 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)

EC/LC 50 (72h)	2.1 mg/l (alga)
LC50 (96h)	31.6 mg / l (fish)
EC/LC50 (48h)	4.6 mg/l (daphnia)

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine

LC50 (96h)	110 mg / l (fish)
EC50 (24h)	44 mg / l (daphnia)
EC50 (72h)	37 mg/l (alga)

- **12.2 Persistence and degradability** No further relevant information available.
- **Other information:** The product is not easily biodegradable.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:** Very toxic for aquatic organisms
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

GB

(Contd. on page 7)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 6)

SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation**

Dispose of the product by burning in a suitable incinerator or bury in an approved landfill following all applicable local and/or national regulations.

· **European waste catalogue**

20 01 27* paint, inks, adhesives and resins containing dangerous substances

· **Uncleaned packaging:**

· **Recommendation:**

Disposal must be made according to official regulations.

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

SECTION 14: Transport information

· **14.1 UN-Number**

· **ADR, IMDG, IATA**

UN2922

· **14.2 UN proper shipping name**

· **ADR**

2922 CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)), ENVIRONMENTALLY HAZARDOUS

· **IMDG**

CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine), diethylmethylbenzenediamine), MARINE POLLUTANT

· **IATA**

CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine))

· **14.3 Transport hazard class(es)**

· **ADR**



· **Class**

8 Corrosive substances.

· **Label**

8+6.1

· **IMDG**



· **Class**

8 Corrosive substances.

· **Label**

8/6.1

· **IATA**



· **Class**

8 Corrosive substances.

· **Label**

8 (6.1)

(Contd. on page 8)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 7)

· 14.4 Packing group	II
· ADR, IMDG, IATA	
· 14.5 Environmental hazards:	Product contains environmentally hazardous substances: diethylmethylenediamine, 2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)
· Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· 14.6 Special precautions for user	Warning: Corrosive substances.
· Danger code (Kemler):	86
· EMS Number:	F-A,S-B
· Stowage Category	B
· Stowage Code	SW2 Clear of living quarters.
· 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	

· ADR	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	E

· IMDG	
· Limited quantities (LQ)	0
· Excepted quantities (EQ)	Code: E0 Not permitted as Excepted Quantity
· UN "Model Regulation":	UN 2922 CORROSIVE LIQUID, TOXIC, N.O.S. (2,2'-DIMETHYL-4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)), 8 (6.1), II, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.
- **Seveso category**
H2 ACUTE TOXIC
E1 Hazardous to the Aquatic Environment
- **Qualifying quantity (tonnes) for the application of lower-tier requirements** 50 t
- **Qualifying quantity (tonnes) for the application of upper-tier requirements** 200 t
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations:**
- **Waterhazard class:** Water danger class 3 (Self-assessment): extremely hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

GB

(Contd. on page 9)

Safety data sheet
according to 1907/2006/EC, Article 31

Printing date 07.03.2018

Version number 12

Revision: 20.02.2018

Trade name: EPOLAM 2080 HARDENER (B)

(Contd. of page 8)

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Relevant phrases**

H302 Harmful if swallowed.

H311 Toxic in contact with skin.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H317 May cause an allergic skin reaction.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H330 Fatal if inhaled.

H373 May cause damage to organs through prolonged or repeated exposure.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

H411 Toxic to aquatic life with long lasting effects.

H412 Harmful to aquatic life with long lasting effects.

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Acute Tox. 3: Acute toxicity – Category 3

Acute Tox. 2: Acute toxicity – Category 2

Skin Corr. 1A: Skin corrosion/irritation – Category 1A

Skin Corr. 1B: Skin corrosion/irritation – Category 1B

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· *** Data compared to the previous version altered.**