

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

- **1.1 Product identifier**
- **Trade name: RSF 816 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](mailto: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.
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.
Repr. 2	H361 Suspected of damaging fertility or the unborn child.
STOT RE 2	H373 May cause damage to organs through prolonged or repeated exposure.
Aquatic Chronic 3	H412 Harmful 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 GHS07 GHS08

- **Signal word** Danger
- **Hazard-determining components of labelling:**  
3-aminomethyl-3,5,5-trimethylcyclohexylamine  
2-piperazin-1-ylethylamine  
Benzyl alcohol  
trimethylhexane-1,6-diamine  
Adduct IA (epoxy amine adduct)
- **Hazard statements**  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.  
H361 Suspected of damaging fertility or the unborn child.  
H373 May cause damage to organs through prolonged or repeated exposure.  
H412 Harmful to aquatic life with long lasting effects.



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· **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.  
 P362+P364 Take off contaminated clothing and wash it before reuse.  
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **2.3 Other hazards**

- **Results of PBT and vPvB assessment** Not applicable.

**SECTION 3: Composition/information on ingredients**

· **3.2 Chemical characterisation: Mixtures**

- **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**

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	25-50%
CAS: 100-51-6 EINECS: 202-859-9 Reg.nr.: 01-2119492630-38	Benzyl alcohol Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332; Eye Irrit. 2, H319	25-50%
CAS: 25513-64-8 EINECS: 247-063-2 Reg.nr.: 01-2119560598-25	trimethylhexane-1,6-diamine Skin Corr. 1A, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1, H317	10-25%
CAS: 68609-08-5 EC number: 614-657-1 Reg.nr.: 01-2120106013-80	Adduct IA (epoxy amine adduct) Aquatic Chronic 2, H411; Acute Tox. 4, H302; Skin Sens. 1, H317	2.5-10%
CAS: 140-31-8 EINECS: 205-411-0 Reg.nr.: 01-2119471486-30	2-piperazin-1-ylethylamine Acute Tox. 3, H311; Repr. 2, H361; STOT RE 1, H372; Skin Corr. 1B, H314; Eye Dam. 1, H318; Acute Tox. 4, H302; Skin Sens. 1, H317; Aquatic Chronic 3, H412	2.5-10%

**SECTION 4: First aid measures**

· **4.1 Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

· **After inhalation:**

Supply fresh air; consult doctor in case of complaints.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

- **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.

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- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **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:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**  
In case of fire, the following can be released:  
Nitrogen oxides (NO<sub>x</sub>)  
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.  
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

### SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **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.  
Ensure adequate ventilation.
- **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:** 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.

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· **7.3 Specific end use(s)** No further relevant information available.

### 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.  
Avoid contact with the eyes and skin.
- **Respiratory protection:** Not necessary if room is well-ventilated.
- **Protection of hands:**



Protective gloves

- **Material of gloves**  
PVC 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:** Protective work clothing

### SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Amine-like

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- **pH-value at 20 °C:** >10
- **Change in condition**
  - Melting point/freezing point:** NA °C
  - Initial boiling point and boiling range:** >200 °C (DIN 53171)
- **Flash point:** > 100 °C (ISO 2719)
- **Ignition temperature:** >300 °C (DIN 51 794)
- **Decomposition temperature:** >260 °C (DIN 53171)
- **Auto-ignition temperature:** Product is not selfigniting.
- **Explosive properties:** Product does not present an explosion hazard.
- **Density at 20 °C:** 0.98 g/cm<sup>3</sup> (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:**
  - Corrosive gases/vapours
  - Ammonia

### SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
  - Harmful if swallowed.

· **LD/LC50 values relevant for classification:**

2855-13-2 3-aminomethyl-3,5,5-trimethylcyclohexylamine		
Oral	LD50	1,030 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rabbit)
100-51-6 Benzyl alcohol		
Oral	LD50	1,230 mg/kg (rat)
Dermal	LD50	1,620 mg/kg (rabbit)
25513-64-8 trimethylhexane-1,6-diamine		
Oral	LD50	910 mg/kg (rat)

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**68609-08-5 Adduct IA (epoxy amine adduct)**

Oral	LD50	300-<2,000 mg/kg (rat)
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- **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**  
Suspected of damaging fertility or the unborn child.
- **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:**

**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)

**100-51-6 Benzyl alcohol**

LC50 (96h)	460 mg / l (fish)
EC/LC50 (48h)	230 mg/l (daphnia)

**25513-64-8 trimethylhexane-1,6-diamine**

EC50 (24h)	31.5 mg / l (daphnia)
EC50 (72h)	29.5 mg/l (alga)
EC/LC50 (48h)	174 mg/l (fish)

**68609-08-5 Adduct IA (epoxy amine adduct)**

LC50 (96h)	1.62 mg / l (fish)
EC50 (72h)	3.13 mg/l (alga)
EC50 (48h)	1.75 mg/l (daphnia)

- **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:** Harmful to fish

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- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

### 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
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- **Uncleaned packaging:**
- **Recommendation:**  
Empty containers may not be disposed of unless any remaining material adhering to the internal walls has been removed.  
Disposal must be made according to official regulations.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

### SECTION 14: Transport information

- **14.1 UN-Number**
  - **ADR, IMDG, IATA** UN1760
  - **14.2 UN proper shipping name**
  - **ADR** 1760 CORROSIVE LIQUID, N.O.S. (ISOPHORONEDIAMINE)
  - **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (ISOPHORONEDIAMINE)
  - **14.3 Transport hazard class(es)**
  - **ADR, IMDG, IATA**
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- **Class** 8 Corrosive substances.
  - **Label** 8
  - **14.4 Packing group**
  - **ADR, IMDG, IATA** III
  - **14.5 Environmental hazards:**
  - **Marine pollutant:** No
  - **14.6 Special precautions for user** Warning: Corrosive substances.
  - **Danger code (Kemler):** 80
  - **EMS Number:** F-A,S-B
  - **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code** Not applicable.

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**· Transport/Additional information:**

- **ADR**
- **Limited quantities (LQ)** 5L
- **Transport category** 3
- **Tunnel restriction code** E
- **UN "Model Regulation":** UN1760, CORROSIVE LIQUID, N.O.S. (ISOPHORONEDIAMINE), 8, III

### 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.
- **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 3
- **National regulations:**
- **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.
- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 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.
- H332 Harmful if inhaled.
- H361 Suspected of damaging fertility or the unborn child.
- H372 Causes damage to organs through prolonged or repeated exposure.
- 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

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



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*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*

*Repr. 2: Reproductive toxicity – Category 2*

*STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1*

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

*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.**