

Material Safety Data Sheet

According to 91/155 EC

Printing date 22.04.2003

Reviewed on 22.04.2003

1 Identification of substance:

- **Product details:**
- **Trade name:** **SP 106 FAST HARDENER**
- **Application of the substance / the preparation** Epoxy curing agent
- **Manufacturer/Supplier:**
SP SYSTEMS LTD
ST. CROSS BUSINESS PARK
NEWPORT I.O.W.
PO30 5WU
UNITED KINGDOM
- **Informing department:** Product safety department.

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2 Composition/Data on components:

- **Chemical characterization**
- **Description:** Mixture of the substances listed below with harmless additions.

- **Dangerous components:**

CAS: 2855-13-2 EINECS: 220-666-8	3-aminomethyl-3,5,5-trimethylcyclohexylamine  C; R 21/22-34-43-52/53	25-50%
CAS: 111-40-0 EINECS: 203-865-4	2,2'-iminodiethylamine  C; R 21/22-34-43	10-25%
CAS: 80-05-7 EINECS: 201-245-8	4,4'-isopropylidenediphenol  Xi; R 36/37/38-43	10-25%
CAS: 112-24-3 EINECS: 203-950-6	trientine  C; R 21-34-43-52/53	2.5-10%
CAS: 108-95-2 EINECS: 203-632-7	phenol, pure  T; R 24/25-34	2.5-10%

- **Additional information**

MAL - kode: 0-5

Pr. nr.:

3 Hazards identification

- **Hazard designation:**



C Corrosive

- **Information pertaining to particular dangers for man and environment**

R 21/22 Harmful in contact with skin and if swallowed.

R 34 Causes burns.

R 43 May cause sensitisation by skin contact.

- **Classification system**

The classification is in line with current EC lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

4 First aid measures

- **General information**

Instantly 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.

- **After inhalation**

Supply fresh air and call for doctor for safety reasons.

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- In case of unconsciousness bring patient into stable side position for transport.*
- **After skin contact** Instantly wash with water and soap and rinse thoroughly.
- **After eye contact** Rinse opened eye for several minutes under running water. Then consult doctor.
- **After swallowing**
Instantly call for doctor.
Drink copious amounts of water and provide fresh air. Instantly call for doctor.

5 Fire fighting measures

- **Suitable extinguishing agents**
Water haze
Foam
Fire-extinguishing powder
Carbon dioxide
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards caused by the material, its products of combustion or resulting gases:**
Formation of toxic gases is possible during heating or in case of fire.
- **Protective equipment:**
Put on breathing apparatus.
Wear full protective suit.

6 Accidental release measures

- **Person-related safety precautions:** Wear protective equipment. Keep unprotected persons away.
- **Measures for environmental protection:**
Prevent material from reaching sewage system, holes and cellars.
Do not allow to enter drainage system, surface or ground water.
- **Measures for cleaning/collecting:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

7 Handling and storage

- **Handling**
- **Information for safe handling:**
Store in cool, dry place in tightly closed containers.
Keep away from heat and direct sunlight.
- **Information about protection against explosions and fires:** No special measures required.
- **Storage**
- **Requirements to be met by storerooms and containers:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep container tightly sealed.

8 Exposure controls and personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Components with limit values that require monitoring at the workplace:**

111-40-0 2,2'-iminodiethylamine (10-25%)	
OEL	4 mg/m ³ , 1 ml/m ³
108-95-2 phenol, pure (2.5-10%)	
OEL	Short-term value: 38 mg/m ³ , 10 ml/m ³ Long-term value: 19 mg/m ³ , 5 ml/m ³

- **Additional information:** The lists that were valid during the compilation were used as basis.

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- **Personal protective equipment**
- **General protective and hygienic measures**
Keep away from foodstuffs, beverages and food.
Take off immediately all contaminated clothing
Wash hands during breaks and at the end of the work.
Avoid contact with the eyes and skin.
- **Breathing equipment:** Use breathing protection in case of insufficient ventilation.
- **Protection of hands:**



Protective gloves.

- **Material of 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 trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed safety glasses.

- **Body protection:** Protective work clothing.

9 Physical and chemical properties:

· General Information

Form:	Fluid
Colour:	Light brown
Odour:	Amine-like

· Change in condition

Melting point/Melting range:	Not determined
Boiling point/Boiling range:	181°C

· **Flash point:** 97°C

· **Ignition temperature:** 325.0°C

· **Self-inflammability:** Product is not selfigniting.

· **Danger of explosion:** Product is not explosive.

· **Vapour pressure at 20°C:** 0.5 mbar

· **Density at 20°C** 0.999 g/cm³

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix

· Viscosity:

dynamic at 20°C: 170 mPas

· Solvent content:

Organic solvents:	0.0 %
Water:	0.0 %

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10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Dangerous reactions** No dangerous reactions known
- **Dangerous products of decomposition:** No dangerous decomposition products known

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

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

Oral	LD50	1030 mg/kg (rat)
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108-95-2 phenol, pure

Oral	LD50	300 mg/kg (mus)
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Dermal	LD50	670 mg/kg (rat)
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Inhalative	LC50/4 h	316 mg/l (rat)
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- **Primary irritant effect:**

- **on the skin:** Caustic effect on skin and mucous membranes.

- **on the eye:** Strong caustic effect.

- **Sensitization:** Sensitization possible by skin contact.

- **Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EC Classification Guidelines for Preparations as issued in the latest version:

Harmful

Corrosive

Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

12 Ecological information:

- **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow product to reach ground water, water bodies or sewage system.

13 Disposal considerations

- **Product:**

- **Recommendation**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID-GGVS/E Class:** 8 Corrosive substances.

- **Kemler Number:** 80

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- **UN-Number:** 2735
- **Packaging group:** III
- **Label** 8
- **Designation of goods:** 2735 POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE, ISOPHORONEDIAMINE)

· **Maritime transport IMDG:**



- **IMDG Class:** 8
- **UN Number:** 2735
- **Label** 8
- **Packaging group:** III
- **EMS Number:** F-A, S-B
- **Marine pollutant:** No
- **Correct technical name:** POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE, ISOPHORONEDIAMINE)

· **Air transport ICAO-TI and IATA-DGR:**



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 2735
- **Label** 8
- **Packaging group:** III
- **Correct technical name:** POLYAMINES, LIQUID, CORROSIVE, N.O.S. (DIETHYLENETRIAMINE, ISOPHORONEDIAMINE)

15 Regulatory information

- **Designation according to EC guidelines:**
The product has been classified and labelled in accordance with EC Directives / Ordinance on Hazardous Materials (GefStoffV)
- **Code letter and hazard designation of product:**
C Corrosive
- **Hazard-determining components of labelling:**
3-aminomethyl-3,5,5-trimethylcyclohexylamine
2,2'-iminodiethylamine
4,4'-isopropylidenediphenol
trientine
- **Risk phrases:**
21/22 Harmful in contact with skin and if swallowed.
34 Causes burns.
43 May cause sensitisation by skin contact.
- **Safety phrases:**
1/2 Keep locked up and out of the reach of children.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

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- **National regulations**
- **Technical instructions (air):**

Class	Share in %
I	4.7

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant R-phrases**

- 21 Harmful in contact with skin.
- 21/22 Harmful in contact with skin and if swallowed.
- 24/25 Toxic in contact with skin and if swallowed.
- 34 Causes burns.
- 36/37/38 Irritating to eyes, respiratory system and skin.
- 43 May cause sensitisation by skin contact.
- 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

- **Department issuing data specification sheet:** Environment protection department.

- **Contact:**

HARALD BEHMER
NICK PARTINGTON

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