



SAFETY DATA SHEET STYCCOBOND F81 HARDENER

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

1.1. Product identifier

Product name STYCCOBOND F81 HARDENER

Internal identification SBF81H/18

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

Identified uses Component of epoxy resin based system

Uses advised against None

1.3. Details of the supplier of the safety data sheet

Supplier F.Ball and Co. Ltd.
Churnetside Business Park,
Station Road,
Cheddleton,
Leek,
Staffordshire. ST13 7RS
Tel: 01538 361633 Mon-Fri 8.30am-5.00pm (Exc Bank Holidays)
Fax: 01538 361622
E.mail: msds@f-ball.co.uk

1.4. Emergency telephone number

Emergency telephone 01538 361633 Mon-Fri 8.30am - 5.00pm (excluding Bank Holidays)

National emergency telephone number UK - National Poisons Information Service Call 111
Ireland - National Poisons Information Centre Call +353 1 809 2166

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified

Health hazards Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Skin Sens. 1 - H317

Environmental hazards Aquatic Chronic 2 - H411

Human health Risk of sensitisation by skin contact

Environmental The product contains a substance which is toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

2.2. Label elements

Hazard pictograms



STYCCOBOND F81 HARDENER

2-PIPERAZIN-1-YLETHYLAMINE		<1%
CAS number: 140-31-8	EC number: 205-411-0	
Classification		
Acute Tox. 4 - H302		
Acute Tox. 4 - H312		
Skin Corr. 1B - H314		
Skin Sens. 1 - H317		
Aquatic Chronic 3 - H412		
TETRAETHYLENEPENTAMINE		<0.5%
CAS number: 112-57-2	EC number: 203-986-2	
Classification		
Acute Tox. 4 - H302		
Acute Tox. 4 - H312		
Skin Corr. 1B - H314		
Skin Sens. 1 - H317		
Aquatic Chronic 2 - H411		

The full text for all hazard statements is displayed in Section 16.

Composition comments Amine curing agent

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Remove affected person from source of contamination.
Inhalation	Move affected person to fresh air at once. Get medical attention if any discomfort continues.
Ingestion	Rinse mouth thoroughly with water. Give plenty of water to drink. Do not induce vomiting. Get medical attention immediately.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

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

General information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	This is unlikely to occur but symptoms similar to those of ingestion may develop.
Ingestion	May cause discomfort if swallowed.
Skin contact	Corrosive. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

STYCCOBOND F81 HARDENER

Suitable extinguishing media	Extinguish with foam, carbon dioxide or dry powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Toxic gases/vapours/fumes of: Oxides of the following substances: Carbon. Nitrogen.
Hazardous combustion products	Oxides of carbon. Oxides of nitrogen.

5.3. Advice for firefighters

Protective actions during firefighting	No specific firefighting precautions known.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Provide adequate ventilation. Wear suitable protective equipment, including gloves, goggles/face shield, respirator, boots, clothing or apron, as appropriate. Avoid contact with skin and eyes.
-----------------------------	--

6.2. Environmental precautions

Environmental precautions	Avoid the spillage or runoff entering drains, sewers or watercourses. Avoid discharge into drains or watercourses or onto the ground. Contain spillages with sand, earth or any suitable absorbent material.
----------------------------------	--

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Absorb spillage with sand or other inert absorbent. Collect spillage in containers, seal securely and deliver for disposal as hazardous waste.
--------------------------------	--

6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. For waste disposal, see section 13.
------------------------------------	--

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Provide adequate ventilation. Good personal hygiene procedures should be implemented. Do not eat, drink or smoke when using the product.
--------------------------	--

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions	Keep separate from food, feedstuffs, fertilisers and other sensitive material. Store in closed original container at temperatures between 5°C and 30°C. Store in a cool and well-ventilated place.
----------------------------	--

7.3. Specific end use(s)

Specific end use(s)	The identified uses for this product are detailed in Section 1.2.
----------------------------	---

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

8.2. Exposure controls

STYCCOBOND F81 HARDENER

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Personal protection

Always check applicability with your supplier of protective equipment.

Eye/face protection

If there is a risk of splashing, wear chemical resistant goggles or visor approved to BS EN166.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. Nitrile gloves to BSEN374 are recommended. Break through times can vary depending on thickness, use and source. Change gloves regularly.

Other skin and body protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene measures

Provide eyewash station. Promptly remove any clothing that becomes contaminated. Wash promptly with soap and water if skin becomes contaminated. Wash contaminated clothing before reuse.

Respiratory protection

No specific recommendation made, but respiratory protection must be used if the general level exceeds the recommended occupational exposure limit.

Environmental exposure controls

Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Viscous liquid.
Colour	Blue.
Odour	Amine.
Odour threshold	Not determined.
pH	Not applicable.
Melting point	Not applicable.
Initial boiling point and range	Not determined.
Flash point	Not determined.
Evaporation rate	Not determined.
Evaporation factor	Not determined.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	Not applicable.
Other flammability	Not applicable.
Vapour pressure	Not determined.
Vapour density	Not determined.
Relative density	0.95 approx @ 20°C

STYCCOBOND F81 HARDENER

Bulk density	Not determined.
Solubility(ies)	Insoluble in water.
Partition coefficient	Not determined.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not determined.
Viscosity	250 approx P @ 20°C
Explosive properties	Not applicable.
Explosive under the influence of a flame	Not considered to be explosive.
Oxidising properties	Not determined.
Comments	Information given is applicable to the product in its ready-to-use form.
<u>9.2. Other information</u>	
Other information	None.
Refractive index	Not determined.
Particle size	Not applicable.
Molecular weight	Not determined.
Volatility	Not determined.
Saturation concentration	Not applicable.
Critical temperature	Not determined.
Volatile organic compound	This product contains a maximum VOC content of 1 (when mixed with resin) g/l.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity The following materials may react with the product: Acids. Strong alkalis. Strong oxidising agents.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

Conditions to avoid Considerable exothermic reaction can occur when mixed with epoxide resins

10.5. Incompatible materials

Materials to avoid Strong acids. Strong alkalis. Strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Oxides of carbon. Oxides of nitrogen.

SECTION 11: Toxicological information

STYCCOBOND F81 HARDENER

11.1. Information on toxicological effects

Toxicological effects	No information available.
<u>Acute toxicity - oral</u>	
Notes (oral LD₅₀)	No specific test data are available.
ATE oral (mg/kg)	7,513.15
<u>Acute toxicity - dermal</u>	
Notes (dermal LD₅₀)	No specific test data are available.
<u>Acute toxicity - inhalation</u>	
Notes (inhalation LC₅₀)	No specific test data are available.
<u>Skin corrosion/irritation</u>	
Skin corrosion/irritation	Chemical burns.
Animal data	No specific test data are available.
Human skin model test	No specific test data are available.
Extreme pH	No specific test data are available.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Corrosivity to eyes is assumed.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Not determined.
<u>Skin sensitisation</u>	
Skin sensitisation	Sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	No specific test data are available. Does not contain any substances known to be mutagenic.
Genotoxicity - in vivo	No specific test data are available. Does not contain any substances known to be mutagenic.
<u>Carcinogenicity</u>	
Carcinogenicity	No specific test data are available. Does not contain any substances known to be carcinogenic.
IARC carcinogenicity	Not listed.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No specific test data are available. Does not contain any substances known to be toxic to reproduction.
Reproductive toxicity - development	Not considered to be toxic to the reproductive system.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	No specific test data are available. Not classified as a specific target organ toxicant after a single exposure.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	No specific test data are available. Not classified as a specific target organ toxicant after repeated exposure.
<u>Aspiration hazard</u>	
Aspiration hazard	Not relevant.

STYCCOBOND F81 HARDENER

General information	No specific health hazards known.
Inhalation	May cause some discomfort in poorly ventilated areas.
Ingestion	May cause discomfort if swallowed.
Skin contact	May cause sensitisation by skin contact. Corrosive. Prolonged contact causes serious tissue damage.
Eye contact	Strongly corrosive. Causes severe burns and serious eye damage. Immediate first aid is imperative.
Acute and chronic health hazards	May cause sensitisation by skin contact. This chemical may cause skin/eye irritation and burns (corrosive).
Route of exposure	Skin and/or eye contact
Target organs	Eyes Skin
Medical symptoms	Allergic rash. Prolonged or repeated exposure may cause the following adverse effects: Chemical burns.
Medical considerations	Pre-existing eye problems. Skin disorders and allergies.

Toxicological information on ingredients.

2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL

Acute toxicity - oral

ATE oral (mg/kg) 500.0

2-PIPERAZIN-1-YLETHYLAMINE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 2,140.0

Species Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ 866 mg/kg, Dermal, Rabbit

ATE dermal (mg/kg) 1,100.0

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Dose level: 8 hours, saturated vapour - no mortalities , Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation Corrosive to skin.

Animal data Corrosive to skin.

Serious eye damage/irritation

Serious eye damage/irritation Severely irritating.

Skin sensitisation

Skin sensitisation Sensitising.

SECTION 12: Ecological information

STYCCOBOND F81 HARDENER

Ecotoxicity The product should not be allowed to enter drains, sewers or watercourses.

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

Acute aquatic toxicity

Acute toxicity - fish Not determined

Acute toxicity - aquatic invertebrates Not determined.

Acute toxicity - aquatic plants Not determined.

Acute toxicity - microorganisms Not determined.

Acute toxicity - terrestrial Not determined.

Chronic aquatic toxicity

Chronic toxicity - fish early life stage Not determined.

Short term toxicity - embryo and sac fry stages Not determined.

Chronic toxicity - aquatic invertebrates Not determined.

Ecological information on ingredients.

2-PIPERAZIN-1-YLETHYLAMINE

Acute aquatic toxicity

Acute toxicity - fish LC50, 96 hours: 2190 mg/l, Pimephales promelas (Fat-head Minnow)
LC50, 96 hours: > 100 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic invertebrates EC50, 48 hours: 58 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC50, 72 hours: > 1000 mg/l, Selenastrum capricornutum

12.2. Persistence and degradability

Persistence and degradability There are no data on the degradability of this product.

Phototransformation Not determined.

Stability (hydrolysis) Not determined.

Biodegradation Not determined.

Biological oxygen demand Not determined.

Chemical oxygen demand Not determined.

Ecological information on ingredients.

2-PIPERAZIN-1-YLETHYLAMINE

Persistence and degradability The product is not readily biodegradable.

Biodegradation Not readily biodegradable.

STYCCOBOND F81 HARDENER

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

Ecological information on ingredients.

2-PIPERAZIN-1-YLETHYLAMINE

Partition coefficient log Kow: -1.48

12.4. Mobility in soil

Mobility The product has poor water-solubility.

Adsorption/desorption coefficient Not determined.

Henry's law constant Not determined.

Surface tension Not determined.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal methods Small quantities may be treated with an equivalent quantity of product resin, allowed to cure and disposed of as low hazard waste. Larger quantities should be disposed of as hazardous waste via a licensed waste operator. Product containers must not be re-used without commercial cleaning.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3082

UN No. (IMDG) 3082

UN No. (ICAO) 3082

UN No. (ADN) 3082

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TOFA REACTION PRODUCT WITH TEPA, TETRAETHYLENEPENTAMINE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TOFA REACTION PRODUCT WITH TEPA, TETRAETHYLENEPENTAMINE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TOFA REACTION PRODUCT WITH TEPA, TETRAETHYLENEPENTAMINE)

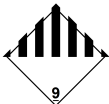
Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS TOFA REACTION PRODUCT WITH TEPA, TETRAETHYLENEPENTAMINE)

14.3. Transport hazard class(es)

STYCCOBOND F81 HARDENER

ADR/RID class	9
ADR/RID classification code	M6
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Emergency Action Code	•3Z
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(-)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

National regulations	Control of Substances Hazardous to Health Regulations 2002 (as amended).
Guidance	Workplace Exposure Limits EH40. Safety Data Sheets for Substances and Preparations.
Authorisations (Annex XIV Regulation 1907/2006)	No specific authorisations are known for this product.

STYCCOBOND F81 HARDENER

Restrictions (Annex XVII Regulation 1907/2006) No specific restrictions on use are known for this product.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

General information	F.Ball and Company Ltd Technical Datasheet.
Key literature references and sources for data	Type of Regulated Adhesive under the air Pollution Control (Volatile Organic Compounds) Regulation of Hong Kong (VCT and Asphalt Tile Adhesive). VOC Content (after mixing with resin) not exceeding 1g/litre.
Revision comments	Section 2: update.
Revision date	02/03/2020
Revision	18
Supersedes date	10/12/2019
SDS status	Approved.
Hazard statements in full	H302 Harmful if swallowed. H312 Harmful in contact with skin. H314 Causes severe skin burns and eye damage. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H319 Causes serious eye irritation. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.