



SAFETY DATA SHEET STYCCOBOND F84 HARDENER

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

1.1. Product identifier

Product name	STYCCOBOND F84 HARDENER
Product number	F3248
Internal identification	SBF84H/12

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

Identified uses	Hardener.
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)
---------------------	--

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 Irrit. 2 - H319 Skin Sens. 1 - H317
Environmental hazards	Aquatic Chronic 2 - H411

Classification (67/548/EEC or 1999/45/EC)	Xi; R41, R38. R52/53, R43
---	---------------------------

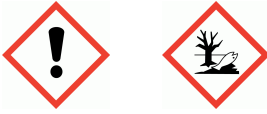
Human health	Risk of sensitisation by skin contact
--------------	---------------------------------------

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

STYCCOBOND F84 HARDENER

Pictogram



Signal word

Warning

Hazard statements

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.

Precautionary statements

P264 Wash contaminated skin thoroughly after handling.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302+P352 IF ON SKIN: Wash with plenty of water.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P313 Get medical advice/ attention.

Contains

TOFA REACTION PRODUCT WITH TEPA, TETRAETHYLENEPENTAMINE

Supplementary precautionary statements

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

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

TOFA REACTION PRODUCT WITH TEPA		60-100%
CAS number: 68953-36-6		
Classification	Classification (67/548/EEC or 1999/45/EC)	
Skin Sens. 1 - H317	R43.	
Aquatic Chronic 2 - H411		
TETRAETHYLENEPENTAMINE		1-5%
CAS number: 112-57-2		EC number: 203-986-2
Classification	Classification (67/548/EEC or 1999/45/EC)	
Acute Tox. 4 - H302	C;R34 Xn;R21/22 R43 N;R51/53	
Acute Tox. 4 - H312		
Skin Corr. 1B - H314		
Eye Dam. 1 - H318		
Skin Sens. 1 - H317		
Aquatic Chronic 2 - H411		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments

Epoxy hardener in organic solvent

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

Remove affected person from source of contamination.

STYCCOBOND F84 HARDENER

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	Skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.

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

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

STYCCOBOND F84 HARDENER

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

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. Wear apron or protective clothing in case of contact.

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

In case of inadequate ventilation use a respirator suitable for organic vapours. Consult respirator manufacturer for specific advice.

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

STYCCOBOND F84 HARDENER

Appearance	Liquid.
Colour	Amber.
Odour	Amine.
Odour threshold	Not determined.
pH	Not applicable.
Melting point	Not applicable.
Initial boiling point and range	>204°C @
Flash point	195°C CC (Closed cup).
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
Bulk density	Not determined.
Solubility(ies)	Insoluble in water.
Partition coefficient	Not determined.
Auto-ignition temperature	Not applicable.
Decomposition Temperature	Not determined.
Viscosity	500 approx cP @ 25°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.

STYCCOBOND F84 HARDENER

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

11.1. Information on toxicological effects

Toxicological effects No information available.

Acute toxicity - oral

Notes (oral LD₅₀) No specific test data are available.

ATE oral (mg/kg) 17,241.38

Acute toxicity - dermal

Notes (dermal LD₅₀) No specific test data are available.

ATE dermal (mg/kg) 37,931.03

Acute toxicity - inhalation

Notes (inhalation LC₅₀) No specific test data are available.

Skin corrosion/irritation

Skin corrosion/irritation Irritating to skin.

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.

Serious eye damage/irritation

Serious eye damage/irritation Irritation of eyes is assumed.

Respiratory sensitisation

Respiratory sensitisation Not determined.

Skin sensitisation

STYCCOBOND F84 HARDENER

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.
<u>General information</u>	
Inhalation	May cause some discomfort in poorly ventilated areas.
Ingestion	May cause discomfort if swallowed.
Skin contact	Prolonged or repeated exposure may cause severe irritation. May cause sensitisation by skin contact.
Eye contact	Causes serious eye irritation.
Acute and chronic health hazards	Irritating to skin. Irritating to eyes. May cause sensitisation by skin contact.
Route of entry	Skin and/or eye contact
Target organs	Eyes Skin
Medical symptoms	Skin irritation. Irritation of eyes and mucous membranes.
Medical considerations	Pre-existing eye problems. Skin disorders and allergies.

SECTION 12: Ecological Information

Ecotoxicity The product should not be allowed to enter drains, sewers or watercourses. The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

12.1. Toxicity

Toxicity Toxic to aquatic life with long lasting effects.

STYCCOBOND F84 HARDENER

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 toxicity - fish early life stage	Not determined.
Short term toxicity - embryo and sac fry stages	Not determined.
Chronic toxicity - aquatic invertebrates	Not determined.

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.

12.3. Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Partition coefficient	Not determined.

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

STYCCOBOND F84 HARDENER

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)

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
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

STYCCOBOND F84 HARDENER

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(E)

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 (Title VII Regulation 1907/2006)	No specific authorisations are known for this product.
Restrictions (Title VIII 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	Health and Safety Executive Guidance Note EH40 (amended annually). Workplace Exposure Limits.
Revision comments	Revised classification.
Revision date	14/09/2016
Revision	12
Supersedes date	18/02/2016
SDS status	Approved.

STYCCOBOND F84 HARDENER

Risk phrases in full

R21/22 Harmful in contact with skin and if swallowed.

R34 Causes burns.

R43 May cause sensitisation by skin contact.

R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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.

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.