

**STRONGHOLD**  
GRP ROOFING SYSTEM

**STRONGHOLD  
ACCELERATOR  
SAFETY DATA SHEET**

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## SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

### 1.1 Product identifier

Product name: Stronghold Accelerator 801  
Chemical name: Cobalt Accelerator  
Product form: Mixture

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

Relevant identified uses: Additive for Glass Reinforced Plastic GRP Roofing.  
Contact the manufacturer for any other application.

### 1.3 Details of the Supplier of the safety data sheet

Manufacturer/Supplier: The Glass Fibre Roofing Company Ltd.  
Address: Unit 33 Pontygwindy Industrial Estate, Caerphilly CF83 3HU  
Telephone number: 02920 888020  
E-mail: sales@strongholdgrp.co.uk

This document is available online at <http://www.strongholdgrp.co.uk>

### 1.4 Emergency telephone numbers

UK Telephone number: 02920 888020 (Office hours only)  
UK Urgent medical problem: 111 (NHS Direct)  
UK Life-threatening emergency: 999

## SECTION 2: Hazards Identification

### 2.1 Classification according to Regulation (EC) No 1272/2008 (CLP)

Eye irritation	Category 2
Skin Sensitization	Category 1
Reproductive Toxicity	Category 2
Acute aquatic toxicity	Category 1
Chronic Aquatic Toxicity	Category 3

#### Classification (67/548/EEC, 1999/45/EC)

Dangerous for the environment	N, R50/53
Sensitising	Xi, R43
Toxic to Reproduction Category	Category 2, Xn, R62
Irritant	Xi, R36

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms:



Signal word:

Warning

**Hazard statements:**

May cause an allergic skin reaction	H317
Causes serious eye irritation	H319
Suspected of damaging fertility	H361f
Very toxic to aquatic life with long lasting effects	H410

**Precautionary statements - Prevention:**

Obtain special instructions before use.	P201
Avoid breathing mist, vapours or spray.	P261
Avoid release to the environment	P273
Wear protective gloves/protective clothing/eye protection/face protection	P280
Use personal protective equipment as required	P281

**Precautionary statements - Response:**

IF ON SKIN: Wash with plenty of water. P302 + P352

Hazardous components which must be listed on the label: Cobalt(II) 2-ethylhexanoate  
136-52-7

Other hazards: No information available.

**SECTION 3: Composition/Information on Ingredients****3.1 Substances**

Chemical name	CAS-No. EC-No. REACH Registration No.	% Weight	GHS Classification	Classification (67/548/EEC)
2,2,4-Trimethyl- 1,3-pentandiol diisobutanoate	6846-50-0 229-934-9 01- 211945109347	40 - 50	Aquatic Chronic 3; H412	
Cobalt(II) 2-ethylhexanoate	136-52-7 205-250-6 01- 211952467829	30 - 40	Eye Irrit. 2; H319 Skin Sens. 1A; H317 Repr. 2; H361f Aquatic Acute 1; H400 Aquatic Chronic 3; H412	N; R50/53 Xi; R43 Repr.Cat.2; R62
Diethylene glycolbutylether	112-34-5 203-961-6	20 - 25	Eye Irrit. 2; H319	Xi; R36

**SECTION 4: First Aid Measures****4.1 Description of first aid measures**

General advice:	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance.
Eye Contact:	Rinse with plenty of water. Remove contact lenses. Protect unharmed eye.
Skin contact:	Take off contaminated clothing and shoes immediately. Rinse immediately with plenty of water. If skin irritation persists, call a physician.

Inhalation: If breathed in, move person into fresh air.  
Consult a physician after significant exposure.  
If not breathing, give artificial respiration.  
Consult a physician.

Ingestion: Clean mouth with water and drink afterwards plenty of water.  
Never give anything by mouth to an unconscious person.  
Obtain medical attention.

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

Symptoms: The symptoms and effects are as expected from the hazards as shown in section 2.  
No specific product related symptoms are known.

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

Notes to physician: Treat symptomatically.

### SECTION 5: Firefighting Measures

#### 5.1 Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam  
Dry chemical

Unsuitable extinguishing media: DO NOT use a high volume water jet

#### 5.2 Special hazards arising from the substance or mixture

Fire hazard: Water spray may be ineffective unless used by experienced firefighters.  
DO NOT allow run-off from fire-fighting to enter drains or water courses.

Combustion products: Carbon oxides.

#### 5.3 Advice for firefighters

Protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

Other information: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments.

### SECTION 6: Accidental Release Measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions: Use personal protective equipment.  
Ensure adequate ventilation.

#### 6.2 Environmental precautions

Environmental precautions: DO NOT flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, Methods for containment acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### 6.4 Reference to other sections

For personal protection see section 8.

## SECTION 7: Handling and Storage

### 7.1 Precautions for safe handling

Precautions for safe handling: For personal protection see section 8.  
Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.  
Avoid contact with skin, eyes and clothing.

Prevention of fire and explosion: Avoid formation of aerosol.  
Keep away from sources of ignition - No smoking.  
No sparking tools should be used.  
Take measures to prevent the build-up of electrostatic charge.

### 7.2 Conditions for safe storage, 3 including any incompatibilities

Technical measures & Storage conditions: Prevent unauthorized access.  
No smoking.  
Keep container tightly closed in a dry and well-ventilated place.

Other data: No decomposition if stored and applied as directed.

### 7.3 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

Components	CAS-No.	Value	Control parameters	Update	Basis
Cobalt(II) 2ethylhexanoate	136-52-7	TWA	0.1 mg/m <sup>3</sup>	2007-08-01	GB EH40

#### Further information:

53+54: Substances that can cause occupational asthma (also known as asthmagens and respiratory sensitisers) can induce a state of specific airway hyper-responsiveness via an immunological, irritant or other mechanism. Once the airways have become hyper-responsive, further exposure to the substance, sometimes even to tiny quantities, may cause respiratory symptoms. These symptoms can range in severity from a runny nose to asthma. Not all workers who are exposed to a sensitiser will become hyperresponsive and it is impossible to identify in advance those who are likely to become hyper-responsive.

54: Substances that can cause occupational asthma should be distinguished from substances which may trigger the symptoms of asthma in people with pre-existing airway hyperresponsiveness, but which do not include the disease themselves. The latter substances are not classified asthmagens or respiratory sensitisers.

55: Wherever it is reasonably practicable, exposure to substances that can cause occupational asthma should be prevented.

Where this is not possible, the primary aim is to apply adequate standards of control to prevent workers from becoming hyper-responsive. For substances that can cause occupational asthma, COSHH requires that exposure be reduced as low as is reasonably practicable. Activities giving rise to short-term peak concentrations should receive particular attention when risk management is being considered. Health surveillance is appropriate for all employees exposed or liable to be exposed to a substance which may cause occupational asthma and there should be appropriate consultation with an occupational health professional over the degree of risk and level of surveillance.

Sen: Capable of causing occupational asthma. The identified substances are those which: - are assigned the risk phrase 'R42: May cause sensitisation by inhalation'; or 'R42/43: May cause sensitisation by inhalation and skin contact' or - are listed in section C of HSE publication 'Asthmagen? Critical assessments of the evidence for agents implicated in occupational asthma' as updated from time to time, or any other substance which the risk assessment has shown to be a potential cause of occupational asthma.

Carc: Capable of causing cancer and/or heritable genetic damage. The identified substances include those which: - are assigned the risk phrases 'R45: May cause cancer'; 'R46: may cause heritable genetic damage'; 'R49: May cause cancer by inhalation' or - a substance or process listed in Schedule 1 of COSHH.

2: Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used. Carcinogenic applies for cobalt dichloride and sulphate.

56: The 'Sen' notation in the list of WELs has been assigned only to those substances which may cause occupational asthma.

Cobalt

Components	CAS-No.	Value	Control parameters	Update	Basis
Diethylene glycol butylether	112-34-5	TWA	10 ppm 67.5 mg/m <sup>3</sup>	2009-12-19	2006/15/EC

**Further information:** Indicative

Diethylene glycol butylether		STEL	15 ppm 101.2 mg/m <sup>3</sup>	2009-12-19	2006/15/EC
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**Further information:** Indicative

Diethylene glycol butylether		TWA	10 ppm 67.5 mg/m <sup>3</sup>	2007-08-01	GB EH40
Diethylene glycol butylether		STEL	15 ppm 101.2 mg/m <sup>3</sup>	2007-08-01	GB EH40

STEL: Short term exposure limit

TWA: Time Weighted Average

#### Derived no effect level (DNEL) according to Regulation (EC) No. 1907/2006

Substance name	End Use	Exposure routes	Potential health effects	Value
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	Workers	Inhalation	Long-term systemic effects	110 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	31.2 mg/kg
	Consumers	Inhalation	Long-term systemic effects	32.6 mg/m <sup>3</sup>
	Consumers	Ingestion	Long-term systemic effects	18.8 mg/kg
	Consumers	Skin contact	Long-term systemic effects	18.8 mg/kg
Cobalt(II) 2-ethylhexanoate	Consumers	Inhalation	Long-term local effects	0.037 mg/m <sup>3</sup>
	Consumers	Ingestion	Long-term systemic effects	0.0558 mg/kg

Cobalt(II) 2-ethylhexanoate	Workers	Inhalation	Long-term local effects	0.235 mg/m <sup>3</sup>
Diethylene glycol butylether	Workers	Inhalation	Acute local effects	101.2 mg/m <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	20 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	67.5 mg/m <sup>3</sup>
	Workers	Inhalation	Long-term local effects	67.5 mg/m <sup>3</sup>
	Consumers	Inhalation	Acute local effects	50.6 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	10 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	34 mg/m <sup>3</sup>
	Consumers	Ingestion	Long-term systemic effects	1.25 mg/kg bw/day
	Consumers	Inhalation	Long-term local effects	34 mg/m <sup>3</sup>

**Predicted no effect concentration (PNEC) according to Regulation (EC) No. 1907/2006**

Substance name	Environmental compartment	Value
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	Fresh water	0.014 mg/l
	Marine water	0.0014 mg/l
	Sewage treatment plant	3 mg/l
	Fresh water sediment	5.29 mg/kg dry weight
	Marine sediment	0.529 mg/kg dry weight
	Soil	1.05 mg/kg dry weight
Cobalt(II) 2-ethylhexanoate	Marine water	0.00236 mg/l
	Fresh water sediment	0.0095 mg/kg dry weight
	Sewage treatment plant	0.000373 mg/l
	Soil	0.00029 mg/kg dry weight
Diethylene glycol butylether	Fresh water	1 mg/l
	Marine water	0.1 mg/l
	Intermittent water	3.9 mg/l
	Sewage treatment plant	200 mg/l
	Fresh water sediment	4 mg/kg
	Marine sediment	0.4 mg/kg
	Soil	0.4 mg/kg
	Secondary Poisoning	56 mg/kg food



## 8.2 Exposure controls

### Occupational exposure limits

Engineering measures: Effective exhaust ventilation system  
Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protective equipment

General Information: Use personal protective equipment.

Respiratory protection: In the case of vapour or aerosol formation use a respirator with an approved filter. Filter A

Eye protection: Tightly fitting safety goggles.

Skin and body protection: Protective suit.

Hand protection: Butyl-rubber, Neoprene

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice.  
When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.  
Wash contaminated clothing before re-use.

### Environmental exposure controls

Environmental exposure controls: DO NOT flush into surface water or sanitary sewer system.  
If the product contaminates rivers and lakes or drains inform respective authorities.

## SECTION 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Property	Values	Remark
Appearance	Violet	
Physical state	Liquid	
Particle size		
Odour	Faint	
Odour threshold	No data available	No data available
pH	No data available	No data available
Melting point/range	-10°C	
Freezing point		
Boiling point	No data available	No data available
Flash point	72°C (Closed cup)	
Evaporation rate	No data available	No data available

<b>Flammability limits in air</b>		
Upper	No data available	No data available
Lower	No data available	No data available
Vapour pressure	No data available	No data available
Vapour density	No data available	No data available
Density	0.963 @ 20°C	
Water solubility	Immiscible	
Partition coefficient	No data available	No data available
n-octanol/water		
Solubility in other solvents	Miscible with most organic solvents, Phthalates	
Auto ignition temperature	No data available	No data available
Decomposition temperature	No data available	No data available
Viscosity, kinematic	17.13 mm <sup>2</sup> /s at 20 °C	
Viscosity, dynamic	16.5 mPa.s at 20 °C	
Explosive properties	Not explosive	
Oxidizing properties	Not classified as oxidising	

### Other safety information

None.

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

Stable under normal conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Avoid contact with (organic) peroxides, unless under controlled processing.

## 10.6 Hazardous decomposition products

Cobalt oxides products, Carbon oxides

## SECTION 11: Toxicological Information

### 11.1 Information on toxicological effects

Inhalation:	Inhalation of aerosols may cause irritation to mucous membranes. Thermal decomposition can lead to release of irritating gases and vapours.
Skin:	May cause an allergic skin reaction. May cause skin irritation.
Eyes:	Causes serious eye irritation.
Ingestion:	May be harmful if swallowed.
Toxicology assessment:	Suspected of damaging fertility or the unborn child.

#### Toxicology data for the components:

##### Toxicology Assessment Cobalt(II) 2-ethylhexanoate

CMR effects:	Reproductive toxicity: Some evidence of adverse effects on sexual function and fertility, based on animal experiments.
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##### Test result 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate

Aspiration toxicity:	No aspiration toxicity classification.
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##### Cobalt(II) 2-ethylhexanoate

Acute oral toxicity:	LD50: > 2,000 mg/kg Species: Rat
Skin Irritation:	Moderately irritating.
Eye Irritation:	Result: Irritating to eyes.
Aspiration toxicity:	No aspiration toxicity classification.

##### Diethylene glycol butylether

Acute oral toxicity:	LD50: 2,410 mg/kg Species: Mouse Method: OECD Test Guideline 401 Literature data.
Acute dermal toxicity:	LD50: 2,764 mg/kg Species: Rabbit Method: OECD Test Guideline 402 Literature data.
Eye Irritation:	Species: Rabbit Result: Irritating to eyes. Literature data.
Sensitisation:	Maximisation Test (GPMT) Species: Guinea pig Result: Does not cause skin sensitisation.

Sensitisation: (continued.)

Method: OECD Test Guideline 406  
Literature data.

## Germ cell mutagenicity

Genotoxicity in vitro:

Ames test  
Salmonella typhimurium  
Result: negative  
Method: OECD Test Guideline 471  
Literature data.

Genotoxicity in vivo:

In vivo micronucleus test  
Species: Mouse  
Result: negative  
Literature data.

Reproductive toxicity & Development  
& Teratogenicity:

Species: Rat  
Application Route: Oral  
General Toxicity Maternal: No observed adverse effect level:  
633 mg/kg bw/day  
Teratogenicity: No observed adverse effect level: 633 mg/kg bw/day  
Method: OECD Test Guideline 414  
Literature data.

## SECTION 12: Ecological Information

### Product information:

### Ecotoxicology Assessment

Additional ecological information:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life with long lasting effects.  
Harmful to aquatic life with long lasting effects.

### 12.1 Toxicity

Components	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Ecotoxicology Assessment 2,2,4-Trimethyl-1,3-pentanediol diisobutanoate	Acute aquatic toxicity	No toxicity at the limit of solubility
	Chronic aquatic toxicity	Harmful to aquatic life with long lasting effects.
Cobalt(II) 2-ethylhexanoate	Acute aquatic toxicity	Very toxic to aquatic life.
	Chronic aquatic toxicity	Harmful to aquatic life with long lasting effects.

### Test result

Chemical name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Toxicity to bacteria
2,2,4-Trimethyl-1,3-pentanediol diisobutanoate		NOEC (21 d) = 0.7 mg/L Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211		

Cobalt(II) 2-ethylhexanoate	NOEC (72h) = 245,1 Species: Skeletonema costatum Test Type: Growth inhibition Method: Other guidelines	NOEC (21 d) = 60,8 Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211 Read-across from supporting substance (structural analogue or surrogate).	NOEC: (33d) =1.02 mg/L Species: Danio rerio (zebra fish) Test Type: flow - through test Method: No data available Read-across from supporting substance (structural analogue or surrogate).	
Diethylene glycol butylether		EC50: (48h) = 3,200 mg/L Species: Daphnia magna (Water flea) Test Type: Immobilization	LC50: (96h) =1,300 mg/L Species: Lepomis macrochirus (Bluegill sunfish)	EC50: 255 mg/L Species: Bacteria Test Type: Growth inhibition

## 12.2 Persistence and degradability

Product information: No information available.

Components	Biodegradability
Cobalt(II) 2-ethylhexanoate	Result: Readily biodegradable
Diethylene glycol butylether	Result: Readily biodegradable Method: OECD Test Guideline 301C

## 12.3 Bio accumulative potential

Product information: No information available.

Components	Biodegradability
Diethylene glycol butylether	Bioaccumulation is unlikely.

## 12.4 Mobility in soil

Product information: No information available.

Components	Mobility
Diethylene glycol butylether	No data available.

## 12.5 Results of PBT and vPvB assessment

Product information:  
(PBT and vPvB assessment) This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Components	PBT and vPvB assessment
Diethylene glycol butylether	No data available.

## 12.6 Other adverse effects

Product information: No information available.

Components	Biochemical Oxygen Demand (BOD)
Diethylene glycol butylether	No data available.

## SECTION 13: Disposal Considerations

### 13.1 Waste treatment methods

Hazardous waste: Dispose of contents/container in accordance with local regulation.

Products: The product should not be allowed to enter drains, water courses or the soil.  
DO NOT contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging: Empty remaining contents.  
Dispose of as unused product.

## SECTION 14: Transport Information

ADR/RID	IMDG/IMO	ICAO/IATA	ADN
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### 14.1 UN Number

UN3082	UN3082	UN3082	UN3082
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### 14.2 UN proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt(II) 2-ethylhexanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt(II) 2-ethylhexanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt(II) 2-ethylhexanoate)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Cobalt(II) 2-ethylhexanoate)
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### 14.3 Transport hazard class

Hazard class 9	Hazard class 9	Hazard class 9	Hazard class 9
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### 14.4 Packing group

III	III	III	III
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### 14.5 Environmental hazards

Yes	Yes	Yes	Yes
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Marine pollutant: Yes

### 14.6 Special precautions for user

**ADR/RID** Classification code: M6  
Tunnel restriction code: (E)

**IMDG/IMO** EmS: F-A, S-F

Special precautions for users: No information available

## 14.7 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

#### Major Accident Hazard Legislation:

ZEU\_SEVES3 ENVIRONMENTAL HAZARDS E1

Quantity 1: 100 t

Quantity 2: 200 t

## SECTION 16: Other Information

Explanations for possible abbreviations mentioned in section 2.

<b>PBT:</b>	Persistent, bioaccumulative and toxic.
<b>vPvB:</b>	Very persistent and very bioaccumulative.
<b>OEL:</b>	Occupational exposure limit.

#### Disclaimer

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

**End of Material Safety Data Sheet**