



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 1

- 1.1 Product identifier
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- 1.3 Details of the supplier of the safety data sheet

- 1.4 Emergency telephone number

SECTION 2

- 2.1 Classification of the substance or mixture:
 - 2.1.1 Classification according to Regulation (EC) No 1272/2008 CLP
 - 2.1.2 Classification according to Directive 67/548/EEC
 - 2.1.3 Additional information

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET[®] ES 8221 Thixotropic Epoxy Enamelling Hardener

IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

CHEMSET[®] ES 8221 Thixotropic Epoxy Enamelling Hardener

Hardener for epoxy resin

R F Bright Enterprises Ltd
Unit 6 Access 4:20
New Hythe Business Park
Bellingham Way
Aylesford
Kent ME20 7HP
England

Telephone: +44 (0)1622 717141 (Monday – Friday 08:30 to 17:00 GMT/BST)

Email: enquiries@rfbright.co.uk

+44 (0)8450 563563

HAZARDS IDENTIFICATION

Acute Tox. – Oral 4	H302
Acute Tox. – Dermal 3	H311
Skin Irrit. 1	H314
Acute Tox – Inhalation 3	H331
Aquatic Chronic 2	H411

Corrosive	C	R35
Toxic	T	R22, R23/24
Dangerous for the Environment	N	R51/53

For full text of R-phrases and Hazard- and EU Hazard- statements see SECTION 16.



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

2.2 Label elements:

Hazard pictogram(s)



GHS05

GHS06

GHS09

Signal word(s)

Danger

Hazard statement(s)

H302 Harmful if swallowed
H311 Toxic in contact with skin
H314 Causes severe skin burns and eye damage
H331 Toxic if inhaled
H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

P260 Do not breathe fume/mist/vapours/spray.
P264 Wash thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P284 Wear respiratory protection.
P301+P330 IF SWALLOWED: Rinse mouth. Immediately call a POISON CENTRE or doctor/physician.
P310 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water.
P303+P361 + P352 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P304+P340 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312 Call a POISON CENTRE or doctor/physician if you feel unwell.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container to hazardous or special waste collection point in accordance with national regulations.

Supplemental hazard information (EU)

Not applicable

2.3 Other hazards

None known

All recommendations are given in good faith but without warranty

JRD/JRD/AT

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 3

3.1 Substances

SECTION 4

4.1 Description of first aid measures:

General notes

After inhalation

After skin contact

After eye contact

After swallowing

Self-protection of the first aider

4.2 Most important symptoms and effects, both acute and delayed

4.3 Indication of any immediate medical attention and special treatment needed

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

COMPOSITION / INFORMATION ON INGREDIENTS

Cycloaliphatic polyamine

EC No: 229-962-1

The remaining ingredients are trade secret and do not affect the hazards associated with this substance.

FIRST AID MEASURES

Provide personal protection for the first aider.

If patient is likely to become unconscious, place and transport in stable sideways position (recovery position).

Move the affected person to fresh air.

Get medical advice/attention.

If available give corticosteroid aerosol dose to inhale.

Remove affected person from source of contamination.

Remove any clothing soiled by the product.

Wash the skin with plenty of soap and water.

Apply sterile dressings and consult a skin specialist.

Remove affected person from source of contamination.

Remove any contact lenses.

Rinse cautiously under running water with eyelids held open for at least 15 minutes.

Consult an eye specialist.

DO NOT INDUCE VOMITING!

Never make an unconscious person vomit or drink fluids!

Get affected person to rinse mouth thoroughly then drink plenty of water.

Provide rest, warmth and fresh air.

Get medical advice/attention.

Wear protective gloves/protective clothing.

Causes severe skin burns and eye damage

Irritating to the mucous membrane

Irritating to the respiratory tract

Treat according to symptoms

No known specific antidote

Pulmonary oedema prophylaxis

Medical monitoring for at least 24 hours



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 5

5.1 Extinguishing media

DO NOT USE

5.2 Specific hazards arising from the substance or mixture

5.3 Advice for fire fighters

SECTION 6

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel

6.1.2 For emergency responders

6.2 Environmental precautions

6.3 Methods and material for containment and cleaning up:

6.3.1 For containment

6.3.2 For cleaning up

6.3.3 Other information

6.4 Reference to other sections

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

FIRE-FIGHTING MEASURES

Dry powder, foam, CO₂, dry sand

Water jet

May produce toxic fumes of carbon monoxide (CO), carbon dioxide (CO₂) and nitrous gases during a fire.

Wear self-contained breathing apparatus.

Wear chemical protection suit if personal (close) contact is likely.

ACCIDENTAL RELEASE MEASURES

Wear suitable protective equipment as referred to in Section 8.
Stop leak if possible without risk.
Keep unprotected persons away.

Wear suitable protective equipment as referred to in Section 8.

Do not allow to enter drainage system, surface or ground water.
Inform authorities if there is a possibility that large amounts of product might enter sewer or waterway.

Prevent from spreading.
Prevent from entering drains/water courses.

Absorb in vermiculite, dry sand or earth and place into containers for recovery or disposal.
Wash area thoroughly after dealing with a spillage.

No further relevant information is available.

Dispose of contaminated material and dirty washing water as waste according to Section 13.



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 7

7.1 Precautions for safe handling

7.1.1 Protective measures

7.1.2 Advice on general occupational hygiene

7.2 Conditions for safe storage including any incompatibilities

7.3 Specific end use(s)

SECTION 8

8.1 Control parameters

8.2 Exposure controls

8.2.1 Appropriate engineering controls

8.2.2 Personal protection equipment:

Eye & face protection

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

HANDLING AND STORAGE

Avoid spilling.
Avoid contact with skin and eyes.
Do not use in a confined space without good ventilation.
Do not eat, drink or smoke when using this product.

Avoid spilling.
Avoid contact with skin and eyes.
Ensure good ventilation.

Do not eat, drink or smoke when using this product.
Wash hands at the end of each work shift and before eating, drinking, smoking or using the toilet.
Remove contaminated clothing and protective equipment before entering eating areas.

Store in tightly closed containers in a dry, cool, well-ventilated place.
Store away from foodstuffs.
Segregate from acids and acid forming substances.
Keep in original containers.

This product has no specific end uses.

EXPOSURE CONTROLS / PERSONAL PROTECTION

Not required.

Avoid breathing fume/mist/vapours/spray.
Avoid contact with the eyes, skin and clothing.
Wash at the end of each work shift and before eating, drinking, smoking or using the toilet.
Do not eat, drink or smoke when using this product.
Wash promptly if skin becomes wet or contaminated.
Promptly remove any clothing that becomes contaminated and launder before reuse.
Avoid release to the environment.

No specific requirements noted, except this product must not be used in a confined space without good ventilation or respiratory protection.

Use approved safety goggles or face shield.



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

Skin protection:

Hand protection

Other skin protection

Respiratory Protection

Thermal Hazards

8.2.3 Environmental Exposure Controls

SECTION 9

9.1 Information on basic physical and chemical properties:

Appearance

Odour

Odour threshold

pH

Melting point / freezing point

Initial boiling point and boiling range

Flash point

Evaporation rate

Flammability

Upper/lower flammability or explosive limits

Vapour pressure

Vapour density

Relative density

Solubility(ies):

Water at 20°C

Organic Solvent

Partition Coefficient:

n-octanol / water

Auto-ignition temperature

Decomposition temperature

Viscosity

Explosive properties

Oxidising properties

9.2 Other Information

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

Use suitable protective gloves (minimum protective index 2; recommended protective index 6).

Wear appropriate protective clothing to prevent any possibility of skin contact.

In case of vapour/aerosol release use a combination filter for gases/vapours of organic compounds and solid and liquid particles such as EN 14387 Type A-P2.

No further relevant information available

Avoid release to the environment.

Runoff or release to sewer, waterway or ground is forbidden.

PHYSICAL AND CHEMICAL PROPERTIES

Almost colourless gel

Amine-like

Not determined

11.0

Not determined

Not determined

Not determined

Not determined

Product is not flammable under normal temperature conditions

Not determined

Not determined

Not determined

Not determined

Not determined

Soluble

Not determined

Not determined

Not determined

Not determined

Not classified as explosive

Not classified as oxidising

No further relevant information available

JRD/JRD/AT



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 10

- 10.1 Reactivity
- 10.2 Chemical stability
- 10.3 Possibility of hazardous reactions
- 10.4 Conditions to avoid
- 10.5 Incompatible materials
- 10.6 Hazardous decomposition products

SECTION 11

- 11.1 Information on toxicological effects:
 - Acute Toxicity
 - Skin corrosion / irritation
 - Serious eye damage / irritation
 - Respiratory or skin sensitisation
 - Germ cell mutagenicity
 - Carcinogenicity
 - Reproductive toxicity
 - Summary of evaluation of the CMR properties
 - STOT single exposure
 - STOT repeated exposure
 - Aspiration hazard

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

STABILITY AND REACTIVITY

Reacts with epoxies.

No hazardous reaction when handled and stored according to provisions.

Exothermic reaction with epoxies.
Strong exothermic reaction with acids.

Avoid all sources of ignition: heat; sparks; open flame.

Copper and brass
Acids and oxidizing agents

High temperatures may produce toxic fumes of carbon monoxide (CO), carbon dioxide (CO₂) and nitrous gases.

TOXICOLOGICAL INFORMATION

Of high toxicity after short-term inhalation or skin contact.
Of moderate toxicity after single ingestion.

Causes severe skin burns

Causes severe eye damage

No sensitising effects known.

No mutagenic effects known.

No carcinogenic effects known.

No reproductive toxicity effects known.

According to present knowledge no CMR effects are known.

No single exposure specific target organ toxicity effects known.

No repeated exposure specific target organ toxicity effects known.

No aspiration hazard effects known.

JRD/JRD/AT



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 12

- 12.1 Toxicity
- 12.2 Persistence and degradability
- 12.3 Bioaccumulative potential
- 12.4 Mobility in soil
- 12.5 Results of PBT and vPvB assessment
- 12.6 Other adverse effects

SECTION 13

- 13.1 Waste treatment methods

SECTION 14

- 14.1 UN number
- 14.2 Proper shipping name
- 14.3 Transport hazard class(es)
- 14.4 Packing group
- 14.5 Environmental hazards
- 14.6 Special precautions for user
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code

*All recommendations are given
in good faith but without warranty*

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

ECOLOGICAL INFORMATION

- Dangerous for the environment.
Toxic to aquatic life with long lasting effects.
- No further relevant information available.
- No further relevant information available.
- No further relevant information available.
- No further relevant information available.
- No further relevant information available.

DISPOSAL CONSIDERATIONS

- All waste should be disposed of using a registered waste carrier operating in accordance with local regulations.
Waste should not be disposed of by release to sewers.

TRANSPORT INFORMATION

- UN 2922
- Corrosive liquid, toxic, n.o.s. (contains amine compounds)
- Class 8 Corrosives
(Class 6.1 Toxic)
- III
- Marine pollutant.
- Not applicable.
- This product is not intended to be transported in bulk.



R F Bright Enterprises Ltd

Unit 6, Access 4.20
New Hythe Business Park, Bellingham Way
Aylesford, Kent ME20 7HP
Email: enquiries@rfbright.co.uk
Website: www.rfbright.co.uk

SECTION 15

- 15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture
- 15.2 Chemical safety assessment

SECTION 16

- 16.1 Issue Date
- Revisions Made
- Supersedes Issue(s) Dated
- 16.2 Classification according to Regulation (EC) Nr. 1272/2008 [CLP]
- Classification procedure
- 16.3 Classification according to Regulation Nr. 1999/45EC
- 16.4 Note:-

All recommendations are given in good faith but without warranty

Product Safety Data Sheet

CHEMSET® ES 8221 Thixotropic Epoxy Enamelling Hardener

REGULATORY INFORMATION

EU Legislation:
Regulation (EC) No 1272/2008 of the European Parliament and of the Council dated 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

OTHER INFORMATION

05 September 2013

None

6 July 2009

H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H331	Toxic if inhaled
H411	Toxic to aquatic life with long lasting effects

Calculation method

C	Corrosive
T	Toxic
N	Dangerous for the Environment R51/53
R22	Harmful if swallowed
R23/24	Toxic by inhalation and in contact with skin
R35	Causes severe burns
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

This product is intended for industrial use only and should be in used accordance with good industrial hygienic practice, the recommendations described in the relevant Product Information Sheets and in conformity with the current statutory regulations.

The information given is based on our present knowledge and is supplied solely in connection with the safe use of the product. It is not to be taken as guaranteeing specific properties and customers should satisfy themselves as to the suitability and completeness of such information for their own use.

®CHEMSET is the Registered Trade Mark of R F BRIGHT ENTERPRISES LTD

JRD/JRD/AT

Page 9 of 9