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

1.1. Product identifier

Product name: REDUX 208/5 NA
Product number: 20007EU-1

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

Identified uses: Epoxy resin formulation in film form.

1.3. Details of the supplier of the safety data sheet

Supplier: Hexcel Composites Ltd
Duxford
Cambridge
CB22 4QD
Tel: +44 (0)1223 833141
Fax: +44 (0)1223 838225

Contact person: SDSEUOffice@hexcel.com
Duxford, Cambridge, CB22 4QD, UK ++ 44 (0)1223 833141
Industriegelaende 2, A-4720 Neumarkt i.H., Austria. ++ 43 (0)7229 7720
Parc Industriel, Rue 3 Bourdons, 54, B-4840, Welkenraedt, Belgium ++32 87 307411
Sophie-Scholl-Weg 22, 21684 Stade, Germany. ++49 4141 78 79 00
Via S, Cristoforo, 44, 21047 Saronno, Italy. ++39 02 96709082
Poligono Ind., C/Bruselas 10-16, 28980 Parla, Madrid, Spain. ++34 91 664 49 00
45 rue de la Plaine, CS 10027, 01126 Dagneux CEDEX, France, ++33 (0)4 72 25 26 27
Xiqing Economic Development Area, Tianjin, China. ++86 22 2388 9068
5th Floor, Wisma Samudra, Jalan Kontraktor U1/14, Hicom-Glenmarie Industrial Park, 40150
Shah Alam, Selangor, Malaysia. +60 3 5569 3510

1.4. Emergency telephone number

Emergency telephone:
To be used only for advice on chemical emergencies, spillages, fires or First Aid:
For emergencies in US/Canada: CHEMTREC – 800 424 9300
For emergencies in rest of the world: CARECHEM24 - +44 (0) 1235 239 670

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards: Not Classified
Environmental hazards: Not Classified

2.2. Label elements

Pictogram
REDUX 208/5 NA

Signal word
Danger

Hazard statements
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements
P302+P352 IF ON SKIN: Wash with plenty of water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P273 Avoid release to the environment.
P280 Wear protective clothing and gloves.
P260 Do not breathe dust.

Contains
EPOXY RESIN (Number average MW <= 700 ), C,C'-AZODI(FORMAMIDE)

2.3. Other hazards
This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>EPOXY RESIN (Number average MW &lt;= 700 )</th>
<th>30-60%</th>
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</thead>
<tbody>
<tr>
<td>CAS number: 25068-38-6</td>
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<tr>
<td>EC number: 500-033-5</td>
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<tr>
<td>Skin Irrit. 2 - H315</td>
<td></td>
</tr>
<tr>
<td>Eye Irrit. 2 - H319</td>
<td></td>
</tr>
<tr>
<td>Skin Sens. 1 - H317</td>
<td></td>
</tr>
<tr>
<td>Aquatic Chronic 2 - H411</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>C,C'-AZODI(FORMAMIDE)</th>
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</thead>
<tbody>
<tr>
<td>CAS number: 123-77-3</td>
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<tr>
<td>EC number: 204-650-8</td>
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<tr>
<td>Classification</td>
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<tr>
<td>Resp. Sens. 1 - H334</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CARBON BLACK</th>
<th>1-5%</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>EC number: 215-609-9</td>
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<tr>
<td>Classification</td>
<td></td>
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<tr>
<td>Not Classified</td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation
With any sign of respiratory distress, affected persons should be taken into fresh air, and made to rest while medical attention is sought.
REDUX 208/5 NA

Ingestion
Immediately rinse the mouth repeatedly with water, if swallowing has occurred, do not induce vomiting. If requested, give affected person sips of water. Seek medical attention immediately. If vomiting does occur do not allow the affected person to inhale their vomit. Do not give anything by mouth to an unconscious person.

Skin contact
With uncured material, immediately wash the affected area with warm, soapy water then clean the skin with resin removing cream, followed by further washing with warm soapy water. Do not use solvents. If irritation persists, seek medical attention.

Eye contact
Flush with water for at least 15 minutes and seek medical attention if irritation persists.

4.2. Most important symptoms and effects, both acute and delayed
Skin contact
This product contains component(s) that can cause irritant and allergic contact dermatitis following skin contact with the product or vapours generated during processes using heat. The initial symptoms of irritant and allergic contact dermatitis are itching, redness, swelling, blistering, flaking and cracking.

4.3. Indication of any immediate medical attention and special treatment needed
Notes for the doctor
No specific recommendations. If in doubt, get medical attention promptly.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media
Water spray, foam, dry powder or carbon dioxide.

5.2. Special hazards arising from the substance or mixture
Specific hazards
Refer to section 10 for further details.

Hazardous combustion products
The products of combustion and decomposition depend on other materials present in the fire and the actual conditions of the fire. Burning will release carbon dioxide, water, carbon monoxide and compounds of nitrogen.

5.3. Advice for firefighters
Special protective equipment for firefighters
Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
Personal precautions
Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions
Environmental precautions
Due to the physical nature of this product, environmental release to drains and water courses is not possible.

6.3. Methods and material for containment and cleaning up
Methods for cleaning up
Clean affected area, and dispose of product and cleaning materials in accordance with local regulations.

6.4. Reference to other sections
Reference to other sections
For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
**Usage precautions**

Avoid contact with uncured product. Avoid inhalation of dust/fumes generated during processing operations. Provide positive dust extraction and collection from cutting zone. Protect against fire and explosion by avoiding dust formation and ignition sources when machining product. Wash skin thoroughly after handling. Use appropriate skin cream to prevent drying of skin. Promptly remove any clothing that becomes contaminated. Do not eat, drink or smoke when using this product.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage precautions**

Store containers, securely closed according to container label instructions. Keep away from food, drink and animal feeding stuffs.

**7.3. Specific end use(s)**

**Specific end use(s)**

Currently no exposure scenario has been developed.

---

**SECTION 8: Exposure Controls/personal protection**

**8.1. Control parameters**

**Occupational exposure limits**

**C,C′-AZODI(FORMAMIDE)**

Short-term exposure limit (15-minute): WEL 3 mg/m³  
Long-term exposure limit (8-hour TWA): WEL 1 mg/m³  
Sen  

**CARBON BLACK**

Short-term exposure limit (15-minute): WEL 7 mg/m³  
Long-term exposure limit (8-hour TWA): WEL 3.5 mg/m³  
WEL = Workplace Exposure Limit  
Sen = Capable of causing occupational asthma.

**8.2. Exposure controls**

**Protective equipment**

**Appropriate engineering controls**

Provide adequate ventilation for operations involving elevated temperature or dust formation.

**Eye/face protection**

Goggles or face protection should be worn during machining operations.

**Hand protection**

It is recommended that chemical-resistant, impervious gloves are worn. Select a glove type that meets Standard EN374. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material.

**Other skin and body protection**

Ensure forearms are protected by use of gloves with long gauntlet, disposable sleeves or long sleeve overalls.

**Respiratory protection**

If adequate local exhaust ventilation is not available, an approved respirator should be used where fumes from hot material, or dust from machining cured material arise.

---

**SECTION 9: Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

**Appearance**

Flexible resin film. Product is protected each side by coloured polythene foil or foil on side and release papercovering on the other.
REDUX 208/5 NA

**Colour**
Black.

**Odour**
Almost odourless.

**Odour threshold**
Not applicable due to its low odour.

**pH**
pH (concentrated solution): ~ 8 (10%)

**Melting point**
~ 3°C

**Initial boiling point and range**
Not relevant due to the physical form of this product.

**Flash point**
Not relevant due to the physical form of this product.

**Evaporation rate**
Not relevant due to the physical form of this product.

**Flammability (solid, gas)**
Not relevant. The product does not contain any flammable constituent.

**Upper/lower flammability or explosive limits**
Not relevant due to the physical form of this product.

**Vapour pressure**
Not relevant due to the physical form of this product.

**Vapour density**
Not relevant due to the physical form of this product.

**Relative density**
Not relevant due to the physical form of this product.

**Solubility(ies)**
The product is supplied in roll form. It is protected each side by polythene foil and /or release paper. The availability of the product to be exposed to a condition where solubility can occur is minimal.

**Partition coefficient**
Technically not feasible.

**Auto-ignition temperature**
Technically not feasible. Material will decompose and exotherm before reaching its auto-ignition temperature.

**Decomposition Temperature**
>300°C

**Viscosity**
Not relevant due to the physical form of this product.

**Explosive properties**
Does not meet the criteria for classification as explosive.

**Oxidising properties**
Does not meet the criteria for classification as oxidising.

**Comments**
The indicated values do not necessarily correspond to the product specification. Please refer to the technical data sheet for specification data.

9.2. Other information

Other information
No information required.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity
Refer to section 10.3 for further details.

10.2. Chemical stability

Stability
Stable under recommended storage temperature as stated in product literature.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions
Material may react exothermically when exposed to high temperatures; exotherm may be severe if material is in bulk (rolls).

10.4. Conditions to avoid

Conditions to avoid
Avoid heat, flames and other sources of ignition.
10.5. Incompatible materials

Materials to avoid
Avoid contact with strong acids and alkalis and oxidising materials.

10.6. Hazardous decomposition products

Hazardous decomposition products
Thermal decomposition and burning may release oxides of carbon, nitrogen and sulphur. The composition of gases/vapours/by-products generated during decomposition will vary depending on temperature conditions, temperature rate of rise and the presence of other chemicals in the vicinity that may react with the product. Gases/vapours/by-products should be regarded as toxic.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects
Toxicological studies on the mixture are not available.

Acute toxicity - oral
Notes (oral LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - dermal
Notes (dermal LD₅₀)
Based on available data the classification criteria are not met.

Acute toxicity - inhalation
Notes (inhalation LC₅₀)
Based on available data the classification criteria are not met.

Skin corrosion/irritation
Animal data
Causes skin irritation.

Serious eye damage/irritation

Serious eye damage/irritation
Causes serious eye irritation.

Respiratory sensitisation

Respiratory sensitisation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation

Skin sensitisation
May cause an allergic skin reaction.

Germ cell mutagenicity

Genotoxicity - in vitro
Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity
Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility
Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure
Based on available data the classification criteria are not met.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure
Based on available data the classification criteria are not met.

Aspiration hazard

Aspiration hazard
Based on available data the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity
REDUX 208/5 NA

Toxicity
A Daphnia Immobilisation Study program covering the chemistry family of the saleable product has been conducted to determine the aquatic toxicity of film adhesives. Based on the study results, the product is not required to be labelled for supply with the dead fish/dead tree symbol (GHS09) in accordance with CLP Regulation.

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

12.3. Bioaccumulative potential
Bioaccumulative potential No data available on bioaccumulation.
Partition coefficient Technically not feasible.

12.4. Mobility in soil
Mobility Not relevant due to the physical form of this product.

12.5. Results of PBT and vPvB assessment
Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

12.6. Other adverse effects
Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
General information It is recommended to conduct a risk assessment prior to recycling or re-using paper coverings or any other packaging to ensure the downstream user’s exposure to any potential hazard is identified and appropriately managed. For packaging and paper coverings, which may have come into direct contact with the product, the hazard classification and applicable regulatory restriction associated with the chemicals identified in section 3 of the Safety Data Sheet should be considered during the risk assessment to ensure no recycling or re-use in downstream applications/markets where the use would not be approved.

SECTION 14: Transport information

General A Daphnia Immobilisation Study program covering the chemistry family of the saleable product has been conducted to determine the aquatic toxicity of film adhesives. Based on the study results, the product is not required to be labelled for supply with the dead fish/dead tree symbol (GHS09) in accordance with CLP Regulation and is not considered as Class 9 in accordance with Dangerous Goods for Transport Regulations for road, sea and air.

14.1. UN number
This product is not dangerous to transport.

14.2. UN proper shipping name
This product is not dangerous to transport.

14.3. Transport hazard class(es)
This product is not dangerous to transport.

14.4. Packing group
This product is not dangerous to transport.

14.5. Environmental hazards
Environmentally hazardous substance/marine pollutant
This product is not dangerous to transport.

14.6. Special precautions for user
This product is not dangerous to transport.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**SECTION 15: Regulatory information**

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

National regulations
This product has been classified in accordance with Regulation (EC) No 1272/2008 (CLP). This product contains substances of very high concern published in accordance with Article 59(10) of Regulation (EC) No. 1907/2006 (REACH) above 0.1 % (w/w). Refer to Section 3.2 for further details.

15.2. Chemical safety assessment
Currently Chemical Safety Assessments for components of this mixture have not been communicated.

**SECTION 16: Other information**
REDUX 208/5 NA

Abbreviations and acronyms used in the safety data sheet

ATE Acute Toxicity Estimate
ADR European Agreement concerning the International Carriage of Dangerous Goods by Road
CLP Classification, Labelling and Packaging Regulation; Regulation (EC) No 1272/2008
CAS# Chemical Abstracts Service number
DNEL Derived No Effect Level
EC# EINECS and ELINCS Number
EINECS European Inventory of Existing Commercial Substances
ELINCS European List of Notified Chemical Substances
EmS Emergency Response Procedures for Ships Carrying Dangerous Goods
EPA Environmental Protection Agency
EU European Union
GHS Globally Harmonised System
IATA International Air Transport Association
ICAO International Civil Aviation Organization
IMDG International Maritime Dangerous Goods
Kow Octanol-water partition coefficient
LC50 Lethal concentration to 50% of a test population
LD50 Lethal dose to 50% of a test population (Median Lethal Dose)
n.o.s. Not otherwise specified
PBT Persistent, Bioaccumulative and Toxic substance
PNEC Predicted No Effect Concentration
PPE Personal Protection Equipment
SADT Self-accelerating decomposition temperature
SCBA Self-Contained Breathing Apparatus
STOT Specific Target Organ Toxicity
(STOT) RE Repeated Exposure
(STOT) SE Single Exposure
SVHC Substance of Very High Concern
TSCA Toxic Substances Control Act
UN United Nations
VOC Volatile Organic Compound
vPvB Very Persistent and very Bioaccumulative

General information
This safety data sheet has been written in accordance with the requirements of the Commission Regulation (EC) No 453/2010 of 20 May 2010.

Classification procedures according to Regulation (EC) 1272/2008

Issued by
European Product Stewardship Department

Revision date
01/05/2015

Revision
1

Supersedes date
30/01/2013

Hazard statements in full
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H411 Toxic to aquatic life with long lasting effects.
The product should be used in accordance with good industrial hygiene practice and compliance with any legal requirements. All information has been compiled with due diligence and is based on the present state of our knowledge. It is intended to describe the product from a point of view of safety and should not therefore be construed as guaranteeing any specific property. All products are supplied subject to our Standard Conditions of Sale which contains limitations on liability.