

**SAFETY DATA SHEET**

conform 91/155/EEG – 2001/58/EG

 Date of issue: 22 December 2006, version 1  
 Commercial product name: DRY FLEX® 4 A  
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**1. Identification of the substance / preparation and the company / undertaken.**

Product name and code:	DRY FLEX® 4 A
Material uses:	Component of elastic repair compound.
Identification company:	Repair Care International B.V. Cartografenweg 34 5141MT Waalwijk The Netherlands Postbus 273 5140 AG Waalwijk The Netherlands Tel: + 31(0) 416 650095 Fax: + 31(0) 416 652024 E - mail: <a href="mailto:info@repair-care.com">info@repair-care.com</a> URL: <a href="http://www.repair-care.com">www.repair-care.com</a>
Emergency telephone number:	England & Wales – NHS Direct (24 hours), tel. 0845 46 47 <a href="http://www.nhsdirect.nhs.uk">www.nhsdirect.nhs.uk</a> Scotland – NHS 24 (24 hours), tel. 08454 24 24 24 <a href="http://www.nhs24.co.uk">www.nhs24.co.uk</a>

**2. Composition / information on ingredients.**

Substance / preparation:	Preparation.			
Ingredient	% weight	danger	CAS#	EC#
Reaction product: bisphenol-A-(epichlorhydrin)				
Epoxy resin (number average molecular weight $\leq$ 700)	< 60	Xi; R36/38 R43 N; R51-53	25068-38-6	500-033-5
Oxirane, mono[(C12-14-alkyloxy)methyl] derives	< 25	Xi; R38-R43	68609-97-2	271-846-8
Phenol, 4-nonylphenol, branched	< 0,8	Xn; R22 C; R34 N; R50/53 Repr. Cat. 3; R62 Repr. Cat. 3; R63	84852-15-3	284-325-5

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**3. Hazard identification.**

The preparation is classified in accordance with Directive 1999/45/EC or Directive 67/548/EEC and its amendments.

Xi	Irritant.
N	Dangerous for the environment.
R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

The material can cause sensitisation and irritation to the skin, prolonged or repeated exposure can reinforce this impact.

**4. First – aid measures.**

General:	In the event of an accident or when feeling unwell consult a physician without delay.
Eye contact:	Exposure causes irritation to the eyes. Remove contact lenses, and rinse with water while keeping the eyelids open for at least 15 minutes. Assist the victim with rinsing. Consult an optometrist.
Skin contact:	Exposure can cause serious skin irritation, constant pain or reddening of the skin. Rinse with plenty of water (at least 15 minutes) and then wash with water and soap, if available. Take a shower if necessary. Consult a dermatologist.
Swallowing:	Provided the patient is conscious, rinse mouth with water and drink minimum 2 glasses of water. DO NOT induce patient to vomit. Obtain immediate medical assistance or take the victim directly to the hospital. The person should be placed and kept in the recovery position if unconscious.
If aerosol or vapour is inhaled in high concentrations:	Take the person into the fresh air and keep him/her warm. Allow the person to rest in a semi-seated position. Consult a physician. Administer if necessary supplemental oxygen.
Further medical treatment:	Symptomatic treatment and supportive therapy as prescribed.

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**5. Fire – fighting measures.**

Suitable extinguishing media: CO<sub>2</sub>, (alcohol resistant) foam, dry powder, water spray or sand should be used. Never use direct water jet. Prevent washings from entering the sewer system.

Unusual fire/explosion hazards: Not flammable. Fire will produce dense black smoke containing hazardous products of combustion. Decomposition products may be a hazard to health. Combustion products may include carbon monoxide and carbon dioxide. Evacuate the area except first aid staff, remain above the wind.

Special protective equipment for fire fighters: Self contained breathing apparatus and full protective clothing to be worn under fire fighting conditions. Only use qualified personnel who are well aware of the dangers of this product. Acid resistant protective equipment must be worn in the vicinity of the fire. Clean the equipment thoroughly after use (shower, clean and check clothing thoroughly).

**6. Accidental release measures.**

Personal precautions: Ensure acid protective clothing and respiratory protection (including self-contained breathing apparatus) is worn when cleaning up spillage. Ventilate and evacuate the area. Can form gasses heavier than air. Danger of skidding.

Environmental precautions: Do not discharge as a concentrate into drains, sewers or surface water. Construct a dike to prevent spreading.

Cleaning methods: Contain spill with sand, ground or other non-flammable absorption material. Collect the waste product in suitable drums for disposal.

**7. Handling and storage.**

Handling: When handling observe the usual precautionary measures for chemicals. Do not inhale vapours and avoid contact with the material. Blend the product on a stable place and prevent spill of the product during processing. Good housekeeping standards and regular safe removal of waste materials will minimize risks.

Storage: Keep container tightly closed in a cool and well ventilated place. Keep separated from foodstuffs and animal foods. Prevent product temperatures rising above 50 °C and under 5 °C.

Storage material: - suitable: Original packaging, plastic.  
- unsuitable: -




Storage temperature: Recommended storage temperature 20 ± 10 °C.

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**8. Exposure controls / personal protection.**

Exposure limit values:	No industrial hygiene limits determined.
Personal protection:	Do not smoke, eat or drink whilst working. Wear suitable protective clothing (preferably plasticized cotton or an apron). Eating, drinking and smoking are prohibited in areas where this material is handled and stored.
Respiratory protection:	Adequate ventilation (ventilation factor > 1), if possible supported with suction at the source.
Skin and body:	Wear suitable protective clothing (preferably an apron in combination with in combination with work sleeves and overall or protecting clothing for once-only use), gloves and eye/face protection. Remove contaminated clothing immediately. Keep working clothes separate (on location e.g. in a closed plastic bag) and change daily. Cotton as working clothes is because of penetrability less preferable, use cotton in combination with a plastic protection. Inform at the clothing supplier to the breakthrough time for epoxy products.
	
Hands:	Wash hands well before breaks and at the end of work. <u>Gloves should be worn to avoid contact with skin.</u> For repeated or long term use, use gloves made from nitrile rubber or neoprene. Do not use vinyl, cotton or natural rubber.
	
Eyes:	Chemical safety glasses (also if small quantities are processed). Eyewash fountain must be nearby (if possible). Full face shield if splashing may occur.
	

**9. Physical and chemical properties.**

General information.	
Appearance:	Liquid.
Colour:	White tone.
Odour:	Characteristic.
Important health, safety and environmental information	
pH:	Not available.
Boiling point:	> 100 °C.
Solidification point:	< 0 °C.
Flash point:	> 65 °C.
Explosive properties:	Not available.
Vapour pressure:	Not available.
Relative density:	1,13 (water = 1).
Solubility in water:	Small part soluble.
Viscosity:	Not available.
Vapour density:	> 1 (air = 1).
Evaporation rate:	Slower than ether.

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**10. Stability and reactivity.**

Stability:	Stable at room temperature. Exothermic reactions possible with oxidisers, strong acids or strong alkaline materials.
Conditions to avoid:	Avoid high (> 50 °C) and low (< 5 °C) temperatures.
Materials to avoid:	Oxidisers, strong acids and alkaline materials.
Hazardous decomposition products:	Unlikely under normal industrial use and at operating temperatures.

**11. Toxicological information.**

Acute toxicity from the components:

Product information:	Reaction product: bisphenol-A-(epichlorhydrin) Epoxy resin (number average molecular weight ≤ 700).
LD <sub>50</sub> (oral, rat):	11,4 g / kg.
LD <sub>50</sub> (dermal, rabbit):	20 mg / kg.
LC <sub>50</sub> (inhalation, rat):	791 mg / m <sup>3</sup> (4 hrs.).
Product information:	Nonylphenol 4-nonylphenol-, branched.
LD50 (oral, rat):	1.900 mg / kg.
LD50 (dermal, rabbit):	2.140 mg / kg.

The following health hazard assessment is based on an assessment of the composition of this product.

Effects on the eyes:	Irritating. Reddening, pain, disturbed vision.
Effects on the skin:	Contact with the preparation may result in contact eczema, sensitisation, skin cracking and swelling. Prolonged or repeated exposure in combination with other epoxy products may damage the skin and may cause irritation eczema. Contains reaction product bisphenol-A-(epichlorhydrin) epoxy resin from which is known that it can lead to allergic contact dermatitis.
Effect on the respiratory organs:	Irritation of mucous membranes and respiratory tract.
Ingestion:	Harmful.

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**11. Toxicological information (continue).**

Carcinogenic, teratogenic and mutagenic character:

1) Mutagenicity: Liquid resins based on diglycidyl ether of Bisphenol A (DGEBA), have proved to be inactive when tested by in vivo mutagenicity assays. These resins have shown activity in in vitro microbial mutagenicity screening and have produced chromosomal aberrations in cultured rat liver cells. The significance of these tests to man is unknown.

2) Carcinogenicity: Recent 2-year bioassays in rats and mice exposed by the dermal route to DGEBA yielded no evidence of carcinogenicity to the skin or any other organs. This study clarifies prior equivocal results from a 2-year mouse skin painting study, which were suggestive, but not conclusive, for weak carcinogenic activity. 3) The International Agency for Research on Cancer (IARC) concluded that DGEBA is not classifiable as a carcinogen (IARC group 3), that is human and animal evidence of carcinogenicity is inadequate.

3) The IARC (International Agency for Research on Cancer) decided DGEBA not to classify as carcinogenic (IARC group 3) based on inadequate test results.

Preparation contains no volatile organic compounds (VOC components), according to the criteria of the directive on VOC products (EU directive 1999/13). A volatile organic compound (VOC) mean any organic compound having at 293,15 K a vapour pressure of 0,01 kPa or more, or having a corresponding volatility under the particular conditions of use.

**12. Ecological information.**

Ecotoxicity from the components.

Product information: Reaction product: bisphenol-A-(epichlorhydrin)  
Epoxy resin (number average molecular weight  $\leq$  700).

LC<sub>50</sub> (fish, leuciscus idus): 3,6 mg / l (48 hrs.).

EC<sub>50</sub> (daphnia): 2,8 mg / l (48 hrs.).

EC<sub>50</sub> (algae): 220 mg / l (96 hrs.).

Product information: Nonylphenol 4-nonylphenol-, branched.

LC50 (fish, golden orfe): 0,9 mg / l (1/2 days), DIN 38412 part 15.

EC10 (bacteria, p. putida): 16 mg / l (1/16 hrs. Bringmann-Kuhn test).

Biodegradation: 78 % CO<sub>2</sub>, Sturm test / OECD 301B.

Is marine pollutant. Accumulation of this substance can occur in the food chain of people, especially in fish and in food from the sea.

Mobility: The product is only for a small part soluble in water.

Persistence / degradability: From the components poor biologically degradable.

Bioaccumulation: No data.

Other harmful effects: Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

WGK: 2 (Wassergefährdungsklasse or water pollution class,  
German Water Resources Act., water pollutant).

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### 13. Disposal considerations.

Product waste:	Incinerate in a hazardous waste incinerator suitable for the disposal of noxious chemical waste in accordance with the stipulations of the relevant regulations. Waste generation should be avoided or minimised where ever possible. If this is not possible, destruction must take place in an approved facility which is equipped to absorb and neutralise acid gasses and other toxic processing products. Waste, even small quantities, should never be poured down drains, sewers or water surfaces.
Eural waste disposal code:	08 04 09* (Waste adhesives and sealants containing organic solvents or other dangerous substances).
Empty containers:	May be reconditioned only after the contents have been completely removed.

### 14. Transport information.

Classification as ADR material for road transport.	
UN number:	3082.
Proper shipping name:	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (mixture contains diglycidyl ether of bisphenol A (BPA type epoxy)), Class 9, III.
ADR class:	9.
Hazard no.:	90.
Packaging:	III.
	
ADR label:	
Remark:	Supplier makes in normal circumstances use of the complete exemption in accordance with LQ7 rand number 3.4 of the ADR (maximum gross content for inner packaging 5 l).
Classification as ICAO/IATA material for air transport.	
UN number:	3082.
Proper shipping name:	UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (mixture contains diglycidyl ether of bisphenol A (BPA type epoxy)), Class 9, III.
Packaging instruction (no limit):	914 (passenger aeroplane).
Packaging instruction (30 kg):	Y914 (passenger aeroplane).
Packaging instruction (no limit):	914 (cargo aircraft).
Class:	9.
	
ICAO/IATA label:	

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**14. Transport information (continue).**

Classification as IMDG material for sea transport.  
UN number: 3082.  
Name on transport document: UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (mixture contains diglycidyl ether of bisphenol A (BPA type epoxy)), Class 9, PG III, MARINE POLLUTANT.  
Class: 9.  
Maximum quantity: 5 litre.  
EmS: F-A / S-F.  
IMO label: -  
Packing and stowage: Category A.

**15. Regulatory information.**

EG classification.



EG hazard symbol:

Hazard description:

R – (risk) phrases:

S – (safety) phrases:

Additional regulation from EU legislation:

WGK:

Additional warning:

VOC content:

Xi Irritant.  
N Dangerous for the environment.  
R36/38 Irritating to eyes and skin.  
R43 May cause sensitisation by skin contact.  
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
S2 Keep out of the reach of children.  
S24 Avoid contact with skin.  
S37/39 Wear suitable gloves and eye/face protection.  
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
S46 If swallowed, seek medical advice immediately and show this container or label.  
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.  
Additional regulation from EU legislation: Contains epoxy constituents. See information supplied by the manufacturer.  
WGK: 2 (Hazard to water, German regulation).  
Additional warning: Contains diglycidyl ether of bisphenol A (BPA type epoxy) (index number 603-074-00-8), oxirane, mono[(C12-14-alkyloxy)methyl] derives (index number 603-103-00-4) and phenol, 4-nonylphenol, branched (index number 601-053-00-8).  
VOC content: Contains none, or almost none, volatile organic compounds.

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**16. Other information.**

List of relevant R - phrases referred to under headings 2 and 3:

R22 - Harmful if swallowed.

R34 - Causes burns.

R38 - Irritating to skin.

R43 - May cause sensitisation by skin contact.

R62 - Possible risk of impaired fertility.

R63 - Possible risk of harm to the unborn child.

R20/22 - Harmful by inhalation and if swallowed.

R36/38 - Irritating to eyes and skin.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

History:           Date of printing:       20 July 2009.  
                      Date of previous issue: No previous validation.  
                      Version:                1.

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the properties of the product. It is always the duty of users to determine the applicability of such information and recommendations and the suitability of any products for their own particular purpose.

Reference:        EC directive 2001/838 on the results of the risk evaluation and the risk reduction strategies for the substances: acrylaldehyde; dimethyl sulphate; nonylphenol phenol, 4-nonyl-, branched; tert-butyl methyl ether.

Safety data sheet according 91/155/EEC - 2001/58/EC.  
DRY FLEX® is a trademark of Repair Care International B.V. .