

**SAFETY DATA SHEET  
ARBO AR 240**

**SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1. Product identifier**

Product name ARBO AR 240  
Synonyms, Trade Names ARBO AR 240 G, ARBO AR 240 H  
Container size 750ml

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

Identified uses Fire rated expanding polyurethane foam. Sealant. Insulator. Fixative. Filler.

**1.3. Details of the supplier of the safety data sheet**

Supplier Adshead Ratcliffe & Co. Ltd.  
Derby Road, Belper  
Derbyshire.  
DE56 1WJ  
Tel. (+44) 01773 826661  
Fax. (+44) 01773 821215  
sds@arbo.co.uk

**1.4. Emergency telephone number**

(+44) 01773 826661 (office hours only)

**SECTION 2: HAZARDS IDENTIFICATION**

**2.1. Classification of the substance or mixture**

Classification (1999/45/EEC) R42/43. Xi;R36/37/38. F+;R12.

**Human health**

The product is irritating to eyes and skin. In high concentrations, vapours may be irritating to the respiratory system. Risk of sensitisation by inhalation. May cause allergic skin disorders in sensitive individuals. The cured product does not present a health hazard.

**Environment**

Not considered as an environmental hazard under current legislation.

**Physical and Chemical Hazards**

Aerosol - Flammable gas and liquid inside. Aerosol containers can explode when heated, due to excessive pressure build-up. Vapours are heavier than air and may travel along the floor and in the bottom of containers.

**2.2. Label elements**

Contains DIPHENYLMETHANE-4,4'-DI-ISOCYANATE

**Labelling**



Harmful



Extremely flammable

**Risk Phrases**

R12	Extremely flammable.
R36/37/38	Irritating to eyes, respiratory system and skin.
R42/43	May cause sensitisation by inhalation and skin contact.

**Safety Phrases**

S23	Do not breathe vapour/spray.
S24/25	Avoid contact with skin and eyes.
S36/37	Wear suitable protective clothing and gloves.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
S60	This material and its container must be disposed of as hazardous waste.
P4	Contains isocyanates. See information supplied by the manufacturer.

**2.3. Other hazards**

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**3.2. Mixtures**

DIPHENYLMETHANE-4,4'-DI-ISOCYANATE		10 - <25%
CAS-No.: 101-68-8	EC No.: 202-966-0	
Classification (EC 1272/2008) Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 STOT SE 3 - H335 STOT RE 2 - H373	Classification (67/548/EEC) Xn;R20 R42/43 Xi;R36/37/38	
ISOBUTANE		5 - 10%
CAS-No.: 75-28-5	EC No.: 200-857-2	
Classification (EC 1272/2008) Flam. Gas 1 - H220	Classification (67/548/EEC) F+;R12	
1, 1, 1, 2-TETRAFLUOROETHANE		5 - 10%
CAS-No.: 811-97-2	EC No.: 212-377-0	
Classification (EC 1272/2008) Not classified.	Classification (67/548/EEC) Not classified.	
DIMETHYL ETHER		5 - 10%
CAS-No.: 115-10-6	EC No.: 204-065-8	
Classification (EC 1272/2008) Flam. Gas 1 - H220	Classification (67/548/EEC) F+;R12	

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

## SECTION 4: FIRST AID MEASURES

**4.1. Description of first aid measures**

## General information

In all cases of doubt, or if symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.

## Inhalation

Move the exposed person to fresh air at once. Get medical attention if any discomfort continues.

## Ingestion

DO NOT induce vomiting. Get medical attention immediately.

## Skin contact

Use resin removing cream. Wash the skin immediately with soap and water. Get medical attention if any discomfort continues. Allow cured material to wear from skin.

## Eye contact

Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

Inhalation.

Upper respiratory irritation.

Ingestion

May cause irritation to mouth, throat and stomach.

Skin contact

Skin irritation. Allergic rash.

Eye contact

Irritating and may cause redness and pain.

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

Treat Symptomatically.

### **SECTION 5: FIREFIGHTING MEASURES**

#### **5.1. Extinguishing media**

Extinguishing media

Use: Powder. Dry chemicals, sand, dolomite etc. Water spray, fog or mist.

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**

Hazardous combustion products

If heated, vapours/gases hazardous to health (e.g. CO, NO<sub>x</sub>, HCl, isocyanates) may be formed.

Unusual Fire & Explosion Hazards

Aerosol cans may explode in a fire.

Specific hazards

In fire product may form: Nitrous gases (NO<sub>x</sub>). Hydrogen chloride (HCl). Hydrogen cyanide (HCN). Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Isocyanates.

#### **5.3. Advice for firefighters**

Special Fire Fighting Procedures

Containers close to fire should be removed or cooled with water. Use water to keep fire exposed containers cool and disperse vapours. Avoid breathing fire vapours. Keep up-wind to avoid fumes.

Protective equipment for fire-fighters

Wear self contained breathing apparatus.

### **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Avoid contact with skin and eyes.

#### **6.2. Environmental precautions**

Do not allow to enter drains, sewers or watercourses.

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

Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Take up mechanically after hardening.

#### **6.4. 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**

Keep away from heat, sparks and open flame. Avoid spilling, skin and eye contact. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level.

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

Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C. Store away from: Oxidising material.

#### **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**

## ARBO AR 240

Name	STD	TWA - 8 Hrs		STEL - 15 Min		Notes
1, 1, 1, 2-TETRAFLUOROETHANE	WEL	1000 ppm	4240 mg/m <sup>3</sup>			
DIMETHYL ETHER	WEL	400 ppm	766 mg/m <sup>3</sup>	500 ppm	958 mg/m <sup>3</sup>	
DIPHENYLMETHANE-4,4'-DI-ISOCYANATE	WEL		0.02 mg/m <sup>3</sup> (Sen)		0.07 mg/m <sup>3</sup> (Sen)	
ISOBUTANE		600 ppm	1450 mg/m <sup>3</sup>	750 ppm	1810 mg/m <sup>3</sup>	

WEL = Workplace Exposure Limit.

### Ingredient Comments

DNEL and PNEC values given for Diphenylmethane-4, 4'-di-isocyanate (MDI).

#### DNEL

Industry	Inhalation.	Short Term	Systemic Effects	0.1 mg/m <sup>3</sup>
Industry	Dermal	Short Term	Systemic Effects	50 mg/kg/day
Industry	Inhalation.	Short Term	Local Effects	0.1 mg/m <sup>3</sup>
Industry	Dermal	Short Term	Local Effects	28.7 mg/kg/day
Industry	Inhalation.	Long Term	Systemic Effects	0.05 mg/m <sup>3</sup>
Industry	Inhalation.	Long Term	Local Effects	0.05 mg/m <sup>3</sup>
Consumer	Inhalation.	Short Term	Systemic Effects	0.05 mg/m <sup>3</sup>
Consumer	Dermal	Short Term	Systemic Effects	25 mg/kg/day
Consumer	Inhalation.	Long Term	Systemic Effects	0.025 mg/m <sup>3</sup>

#### PNEC

Freshwater	1	mg/l
Marinewater	0.1	mg/l
Soil	1	mg/kg
STP	1	mg/l

## 8.2. Exposure controls

### Protective equipment



### Engineering measures

Provide adequate general and local exhaust ventilation.

### Respiratory equipment

Suitable respiratory protection must be used at high concentrations. Use respiratory equipment with combination filter, type A2/P3.

### Hand protection

Use protective gloves made of: Butyl rubber. Polyethylene. >120 min (EN 374) The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

### Eye protection

Use eye protection.

### Other Protection

Wear appropriate clothing to prevent repeated or prolonged skin contact.

### Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance	Aerosol. Foam.
Colour	Pink.
Odour	Slight odour.
Solubility	Insoluble in water
Initial boiling point and boiling range	Not applicable.
Melting point (°C)	Not applicable.
Relative density	1.06 @ 20°C
Vapour density (air=1)	Not applicable.

Vapour pressure	Not applicable.
Evaporation rate	Not applicable.
pH-Value, Conc. Solution	Not applicable.
Viscosity	Not applicable.
Solubility Value (G/100G H <sub>2</sub> O@20°C)	Not applicable.
Decomposition temperature (°C)	Not determined.
Odour Threshold, Lower	Not applicable.
Odour Threshold, Upper	Not applicable.
Flash point	< 21 (propellant) >200 (MDI)
Auto Ignition Temperature (°C)	>400 (propellant) >600 (MDI)
Flammability Limit - Lower(%)	Not determined.
Flammability Limit - Upper(%)	Not determined.
Partition Coefficient (N-Octanol/Water)	Not applicable.
Oxidising properties	Not applicable.

## **9.2. Other information**

Not known.

## **SECTION 10: STABILITY AND REACTIVITY**

### **10.1. Reactivity**

Reacts with water during hardening to liberate CO<sub>2</sub> gas.

### **10.2. Chemical stability**

Stable under normal temperature conditions and recommended use.

### **10.3. Possibility of hazardous reactions**

Not known.

Hazardous Polymerisation

Will not polymerise.

### **10.4. Conditions to avoid**

Avoid exposing aerosol containers to high temperatures or direct sunlight. Avoid heat, flames and other sources of ignition.

### **10.5. Incompatible materials**

Materials To Avoid

Strong oxidising substances. Strong alkalis. Strong acids.

### **10.6. Hazardous decomposition products**

If heated, vapours/gases hazardous to health (e.g. CO, NO<sub>x</sub>, HCl, isocyanates) may be formed.

## **SECTION 11: TOXICOLOGICAL INFORMATION**

### **11.1. Information on toxicological effects**

Toxic Dose 1 - LD 50

MDI: 9200 mg/kg (oral rat)

Toxic Dose 2 - LD 50

MDI: >10, 000 mg/kg (dermal-rbt)

Toxic Conc. - LC 50

MDI: 178 mg/l/4h (inh-rat)

Toxicological information

The product has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly.

#### Acute toxicity:

Based on available data the classification criteria are not met.

#### Skin Corrosion/Irritation:

Irritating.

#### Serious eye damage/irritation:

Causes eye irritation.

#### Respiratory or skin sensitisation:

Sensitising.

Germ cell mutagenicity:

Does not contain any substances known to be mutagenic.

Carcinogenicity:

Does not contain any substances known to be carcinogenic.

Reproductive Toxicity:

Does not contain any substances known to be toxic to reproduction.

Aspiration hazard:

Not relevant, due to the form of the product.

Inhalation

May cause irritation to the respiratory system. May cause sensitisation by inhalation.

Ingestion

Unlikely route of exposure.

Skin contact

Irritating to skin. May cause sensitisation by skin contact.

Eye contact

Irritating to eyes.

Medical Considerations

Skin disorders and allergies. Chronic respiratory and obstructive airway diseases.

## SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

No data for this product is available. The product has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/ EC and classified for ecotoxicological hazards accordingly.

### **12.1. Toxicity**

LC 50, 96 Hrs, Fish mg/l	MDI: > 500
EC 50, 48 Hrs, Daphnia, mg/l	Not determined
IC 50, 72 Hrs, Algae, mg/l	Not determined

### **12.2. Persistence and degradability**

Degradability

There are no data on the degradability of this product.

### **12.3. Bioaccumulative potential**

Bioaccumulative potential

No data available on bioaccumulation.

Partition coefficient                      Not applicable.

### **12.4. Mobility in soil**

Mobility:

The product is insoluble in water.

### **12.5. Results of PBT and vPvB assessment**

This product does not contain any PBT or vPvB substances.

### **12.6. Other adverse effects**

Not known.

## SECTION 13: DISPOSAL CONSIDERATIONS

# ARBO AR 240

## General information

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority. When handling waste, consideration should be made to the safety precautions applying to handling of the product.

### 13.1. Waste treatment methods

Empty containers must not be burned because of explosion hazard.

Dispose of waste and residues in accordance with local authority requirements.

Cured foam may be disposed of as normal waste.

Waste Class

H3 - Extremely flammable

H4 - Irritant

H13 - Sensitising

Recommended EWC Code 16 05 04\*

## SECTION 14: TRANSPORT INFORMATION

### 14.1. UN number

UN No. (ADR/RID/ADN) 1950

UN No. (IMDG) 1950

UN No. (ICAO) 1950

### 14.2. UN proper shipping name

Proper Shipping Name AEROSOLS

### 14.3. Transport hazard class(es)

ADR/RID/ADN Class 2

ADR/RID/ADN Class Class 2.1: Flammable gases.

ADR Label No. 2.1

IMDG Class 2.1

ICAO Class/Division 2.1

Transport Labels



### 14.4. Packing group

ADR/RID/ADN Packing group N/A

IMDG Packing group N/A

ICAO Packing group N/A

### 14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant

No.

### 14.6. Special precautions for user

EMS F-D, S-U

Emergency Action Code N/A

Hazard No. (ADR) 23 Flammable gas.

Tunnel Restriction Code (D)

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

Not applicable.

**SECTION 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Uk Regulatory References

Chemicals (Hazard Information & Packaging) Regulations.

Guidance Notes

Workplace Exposure Limits EH40.

EU Legislation

Dangerous Substance Directive 67/548/EEC. Dangerous Preparations Directive 1999/45/EC. Regulation (EC) 1907/2006 REACH. Regulation (EC) 1272/2008 CLP.

**15.2. Chemical Safety Assessment**

No chemical safety assessment has been carried out.

**SECTION 16: OTHER INFORMATION**

Revision Comments

General review New format as required by REACH Annex II

Revision Date 28/11/12

Supersedes date 19/10/10

SDS No. 10114

Risk Phrases In Full

R12 Extremely flammable.

R20 Harmful by inhalation.

R36/37/38 Irritating to eyes, respiratory system and skin.

R42/43 May cause sensitisation by inhalation and skin contact.

Hazard Statements In Full

H319 Causes serious eye irritation.

H315 Causes skin irritation.

H220 Extremely flammable gas.

H332 Harmful if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H373 May cause damage to organs <<Organs>> through prolonged or repeated exposure.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer.

## Disclaimer

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 a 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.