



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

Emergency telephone	(+44) 01773 826661 (office hours only)
---------------------	--

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Aerosol 1 - H222, H229
Health hazards	Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Carc. 2 - H351 Lact. - H362 STOT SE 3 - H335 STOT RE 2 - H373
Environmental hazards	Aquatic Chronic 4 - H413

2.2. Label elements

Pictogram



Signal word

Danger

ARBO AR 240

Hazard statements	<p>H222 Extremely flammable aerosol.</p> <p>H229 Pressurised container: may burst if heated</p> <p>H315 Causes skin irritation.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H319 Causes serious eye irritation.</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H351 Suspected of causing cancer.</p> <p>H362 May cause harm to breast-fed children.</p> <p>H373 May cause damage to organs through prolonged or repeated exposure if inhaled.</p> <p>H413 May cause long lasting harmful effects to aquatic life.</p>
Precautionary statements	<p>P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.</p> <p>P211 Do not spray on an open flame or other ignition source.</p> <p>P251 Do not pierce or burn, even after use.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.</p> <p>P284 [In case of inadequate ventilation] wear respiratory protection.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P405 Store locked up.</p> <p>P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.</p> <p>P501 Dispose of contents/ container in accordance with national regulations.</p> <p>P260 Do not breathe vapours.</p> <p>P308+P311 IF exposed or concerned: Call a POISON CENTER or doctor.</p> <p>P102 Keep out of reach of children.</p>
Contains	DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues, ALKANES, C14-17, CHLORO

2.3. Other hazards

Aerosol may explode under the effect of heat. Gas/vapour spreads at floor level: ignition hazard. May be ignited by sparks.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

TRIS(2-CHLORO-1-METHYLETHYL) PHOSPHATE	10-30%
CAS number: 13674-84-5	EC number: 237-158-7
Classification	
Acute Tox. 4 - H302	

ARBO AR 240

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues	10-30%
CAS number: 32055-14-4 EC number: 500-079-6	
Classification	
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	
PROPANE	5-10%
CAS number: 74-98-6 EC number: 200-827-9	
Classification	
Flam. Gas 1 - H220	
Press. Gas	
ISOBUTANE	5-10%
CAS number: 75-28-5 EC number: 200-857-2	
Classification	
Flam. Gas 1 - H220	
Press. Gas	
DIMETHYL ETHER	5-10%
CAS number: 115-10-6 EC number: 204-065-8	
Classification	
Flam. Gas 1 - H220	
Press. Gas	
ALKANES, C14-17, CHLORO	1-5%
CAS number: 85535-85-9 EC number: 287-477-0	
M factor (Acute) = 1 M factor (Chronic) = 1	
Classification	
Lact. - H362	
Aquatic Acute 1 - H400	
Aquatic Chronic 1 - H410	

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

SECTION 4: First aid measures

4.1. Description of first aid measures

ARBO AR 240

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 affected person to fresh air at once. Get medical attention if any discomfort continues. In the event of any sensitisation symptoms developing, ensure further exposure is avoided.
Ingestion	Rinse mouth thoroughly with water. Promptly get affected person to drink large volumes of water to dilute the swallowed chemical. Give milk instead of water if readily available. Do not induce vomiting. Get medical attention if any discomfort continues.
Skin contact	Use resin removing cream. Wash skin thoroughly with soap and water. Get medical attention if any discomfort continues. Allow cured material to wear from skin. In the event of any sensitisation symptoms developing, ensure further exposure is avoided.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

Inhalation	Upper respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Ingestion	May cause irritation to mouth, throat and stomach.
Skin contact	Skin irritation. Allergic rash.
Eye contact	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

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

Notes for the doctor	No specific recommendations.
-----------------------------	------------------------------

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with the following media: 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

Specific hazards	Extremely flammable aerosol. Containers can burst violently or explode when heated, due to excessive pressure build-up. In fire product may form: Toxic gases or vapours.
Hazardous combustion products	Heating may generate the following products: Carbon monoxide (CO). Carbon dioxide (CO ₂). Oxides of nitrogen. Hydrogen chloride (HCl). Hydrogen cyanide (HCN).

5.3. Advice for firefighters

Protective actions during firefighting	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 gases or vapours. Keep up-wind to avoid fumes.
Special protective equipment for firefighters	Wear self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

ARBO AR 240

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. No smoking, sparks, flames or other sources of ignition near spillage.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Take up mechanically after hardening. Clean (treat) contaminated surfaces with acetone. When handling waste, the safety precautions applying to handling of the product should be considered.

6.4. Reference to other sections

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

Usage precautions Keep away from heat, sparks and open flame. Provide adequate ventilation. Avoid inhalation of vapours. Use approved respirator if air contamination is above an acceptable level. Avoid contact with skin and eyes. Persons already sensitised to diisocyanates may develop allergic reactions when using this product.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash promptly if skin becomes contaminated.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in a cool and well-ventilated place. Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C. Store away from the following materials: Oxidising materials.

7.3. Specific end use(s)

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

Occupational exposure limits

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues

Long-term exposure limit (8-hour TWA): WEL 0.02 mg/m³(Sen)

Short-term exposure limit (15-minute): WEL 0.07 mg/m³(Sen)

ISOBUTANE

Long-term exposure limit (8-hour TWA): 600 ppm 1450 mg/m³

Short-term exposure limit (15-minute): 750 ppm 1810 mg/m³

DIMETHYL ETHER

Long-term exposure limit (8-hour TWA): WEL 400 ppm 766 mg/m³

Short-term exposure limit (15-minute): WEL 500 ppm 958 mg/m³

WEL = Workplace Exposure Limit

TRIS(2-CHLORO-1-METHYLETHYL) PHOSPHATE (CAS: 13674-84-5)

DMEL

Workers - Dermal; Long term systemic effects: 0.72 mg/kg/day

ARBO AR 240

PNEC	<ul style="list-style-type: none"> - Fresh water; 0.42 mg/l - Marine water; 0.42 mg/l - Sediment (Freshwater); 2.96 mg/kg - Soil; 1.33 mg/kg
-------------	--

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues (CAS: 32055-14-4)

DNEL	<p>Workers - Inhalation; Long term systemic effects: 0.05 mg/m³</p> <p>Workers - Inhalation; Short term systemic effects: 0.1 mg/m³</p> <p>Workers - Inhalation; Long term local effects: 0.05 mg/m³</p> <p>Workers - Inhalation; Short term local effects: 0.1 mg/m³</p> <p>Workers - Dermal; Short term systemic effects: 50 mg/kg/day</p> <p>Workers - Dermal; Short term local effects: 28.7 mg/cm²</p> <p>General population - Inhalation; Long term systemic effects: 0.025 mg/m³</p> <p>General population - Inhalation; Short term systemic effects: 0.05 mg/m³</p> <p>General population - Inhalation; Long term local effects: 0.05 mg/m³</p> <p>General population - Dermal; Short term systemic effects: 25 mg/kg/day</p> <p>General population - Dermal; Short term local effects: 17.2 mg/cm²</p> <p>General population - Oral; Short term systemic effects: 20 mg/kg/day</p>
PNEC	<ul style="list-style-type: none"> - Fresh water; 1 mg/l - Marine water; 0.1 mg/l - Intermittent release; 10 mg/l - STP; 1 mg/l - Soil; 1 mg/kg

ALKANES, C14-17, CHLORO (CAS: 85535-85-9)

DNEL	<p>Workers - Inhalation; Long term systemic effects: 6.7 mg/m³</p> <p>Workers - Dermal; Long term systemic effects: 47.9 mg/kg/day</p> <p>General population - Inhalation; Long term systemic effects: 2 mg/m³</p> <p>General population - Dermal; Long term systemic effects: 28.75 mg/kg/day</p> <p>General population - Oral; Long term systemic effects: 0.58 mg/kg/day</p>
PNEC	<ul style="list-style-type: none"> - Fresh water; 1 µg/l - Marine water; 0.2 µg/l - STP; 80 mg/l - Sediment (Freshwater); 13 mg/kg - Sediment (Marinewater); 2.6 mg/kg - Soil; 11.9 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation.

Eye/face protection

Wear eye protection. Personal protective equipment for eye and face protection should comply with European Standard EN166.

ARBO AR 240

Hand protection	Wear protective gloves. It is recommended that gloves are made of the following material: Butyl rubber. Polyethylene. >120 min (EN 374) 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	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene measures	Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated.
Respiratory protection	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Wear a respirator fitted with the following cartridge: Combination filter, type A2/P2.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Aerosol. Foam.
Colour	Pink.
Odour	Slight.
Odour threshold	Not applicable.
pH	Not applicable.
Melting point	Not applicable.
Initial boiling point and range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Upper/lower flammability or explosive limits	Not determined.
Vapour pressure	Not applicable.
Vapour density	Not applicable.
Relative density	~ 1.06 @ 20°C
Solubility(ies)	Insoluble in water. Soluble in organic solvents.
Partition coefficient	Not applicable.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	Not applicable.
Explosive properties	Aerosol may explode under the effect of heat.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	Not known.
--------------------------	------------

SECTION 10: Stability and reactivity

10.1. Reactivity

ARBO AR 240

Reactivity Isocyanates react with water to liberate carbon dioxide. Any ingress of moisture into an isocyanate container, whether full or empty, can lead to a pressure build up and subsequent explosion.

10.2. Chemical stability

Stability Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions May polymerize with many compounds e.g.: (strong) bases and amines. Reacts violently with (some) acids/bases.

10.4. Conditions to avoid

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 agents. Strong alkalis. Strong acids.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion products may include the following substances: Carbon monoxide (CO). Oxides of nitrogen. Hydrogen chloride (HCl). Hydrogen cyanide (HCN).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

ATE oral (mg/kg) 6,200.0

Acute toxicity - inhalation

ATE inhalation (vapours mg/l) 36.67

Skin corrosion/irritation

Animal data For this endpoint no toxicological data is available for the whole product.

Serious eye damage/irritation

Serious eye damage/irritation For this endpoint no toxicological data is available for the whole product. Causes eye irritation.

Respiratory sensitisation

Respiratory sensitisation Sensitising.

Skin sensitisation

Skin sensitisation Sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro For this endpoint no toxicological data is available for the whole product.

Carcinogenicity

Carcinogenicity Contains a substance which may be potentially carcinogenic.

Reproductive toxicity

Reproductive toxicity - fertility Contains a substance which may cause harm to breast-fed children.

Specific target organ toxicity - single exposure

STOT - single exposure A single exposure may cause the following adverse effects: Respiratory irritation. Asthma, pulmonary sensitisation.

ARBO AR 240

Specific target organ toxicity - repeated exposure

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure if inhaled.

Aspiration hazard

Aspiration hazard Not applicable.

Inhalation May cause respiratory system irritation. 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.

Toxicological information on ingredients.

TRIS(2-CHLORO-1-METHYLETHYL) PHOSPHATE

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 930.0

Species Rat

Notes (oral LD₅₀) LD₅₀ 930 - 1550 mg/kg, Oral, Rat

ATE oral (mg/kg) 930.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >2000 mg/kg, Dermal, Rat, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC50 >4.6 mg/l/4hr/day, Inhalation, Rat

Skin corrosion/irritation

Animal data Not irritating. REACH dossier information.

Serious eye damage/irritation

Serious eye damage/irritation Not irritating. REACH dossier information.

Respiratory sensitisation

Respiratory sensitisation Not sensitising.

Skin sensitisation

Skin sensitisation Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro This substance has no evidence of mutagenic properties.

Carcinogenicity

Carcinogenicity No evidence of carcinogenicity in animal studies.

Reproductive toxicity

Reproductive toxicity - fertility This substance has no evidence of toxicity to reproduction.

ARBO AR 240

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ >10000 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ >9400 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ 310 mg/l/4hr/day, Inhalation, Rat NOAEL 0.2 mg/m³, Inhalation, Rat LOAEL 1 mg/m³, Inhalation, Rat

ATE inhalation (vapours mg/l) 11.0

SECTION 12: Ecological Information

Ecotoxicity No data for this product is available.

12.1. Toxicity

Ecological information on ingredients.

TRIS(2-CHLORO-1-METHYLETHYL) PHOSPHATE

Acute toxicity - fish LC₅₀, 96 hours: 51 mg/l, Pimephales promelas (Fat-head Minnow)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 131 mg/l, Daphnia magna

Acute toxicity - aquatic plants IC₅₀, 72 hours: 82 mg/l, Fish

Acute toxicity - microorganisms EC₅₀, 3 hours: 784 mg/l, Bacteria

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues

Acute toxicity - fish LC₅₀, 96 hours: >1000 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 24 hours: >500 mg/l, Daphnia magna

Acute toxicity - aquatic plants NOELR, 3 days: 1640 mg/l, Scenedesmus subspicatus
EC₅₀, 3 days: >1640 mg/l, Scenedesmus subspicatus

Acute toxicity - microorganisms EC₅₀, 3 hours: >100 mg/l, Activated sludge

Chronic toxicity - aquatic invertebrates NOEC, 21 days: >10 mg/l, Daphnia magna

12.2. Persistence and degradability

ARBO AR 240

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

Ecological information on ingredients.

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues

Biodegradation - Degradation 0%: 28 days

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not applicable.

Ecological information on ingredients.

DIPHENYLMETHANEDIISOCYANATE -Isomers & homologues

Bioaccumulative potential The product is not bioaccumulating.

12.4. Mobility in soil

Mobility The product is insoluble in water.

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 Not known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. When handling waste, the safety precautions applying to handling of the product should be considered.
Disposal methods	Empty containers must not be punctured or incinerated because of the risk of an explosion. Cured foam may be disposed of as normal waste.
Waste class	Recommended EWC Code 16 05 04* Gases in pressure containers (including halons) containing hazardous substances 08 05 01* Waste isocyanates 15 01 10* Packaging containing residues of or contaminated by dangerous substances.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	1950
UN No. (IMDG)	1950
UN No. (ICAO)	1950
UN No. (ADN)	1950

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	AEROSOLS
Proper shipping name (IMDG)	AEROSOLS

ARBO AR 240

Proper shipping name (ICAO) AEROSOLS

Proper shipping name (ADN) AEROSOLS

14.3. Transport hazard class(es)

ADR/RID class	2.1
ADR/RID classification code	5F
ADR/RID label	2.1
IMDG class	2.1
ICAO class/division	2.1
ADN class	2.1

Transport labels



14.4. Packing group

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

EmS	F-D, S-U
ADR transport category	2
Tunnel restriction code	(D)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) 1907/2006 REACH (as amended). Regulation (EC) 1272/2008 CLP (as amended).
----------------	--

Guidance	Workplace Exposure Limits EH40.
----------	---------------------------------

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision comments	General review
Revision date	15/05/2017
Revision	1
Supersedes date	28/11/2012
SDS number	10114

ARBO AR 240

Hazard statements in full

H220 Extremely flammable gas.
H222 Extremely flammable aerosol.
H229 Pressurised container: may burst if heated
H302 Harmful if swallowed.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H351 Suspected of causing cancer.
H362 May cause harm to breast-fed children.
H373 May cause damage to organs through prolonged or repeated exposure if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

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 any 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.