

SAFETY DATA SHEET

Product name: AMSORB® Plus	Document Number: MSDS-1401 Issue: 11 Creation Date: October 2004 Revision Date: 24 Jun 2024
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1	IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING	
1.1	Product identifier	AMSORB® Plus
1.2	Relevant identified uses of the substance or mixture and uses advised against	Carbon dioxide (CO ₂) absorbent for medical use only; suitable for use in human and animal anaesthesia.
1.3	Details of the supplier of the safety data sheet	Armstrong Medical Limited Wattstown Business Park, Newbridge Road, Coleraine Northern Ireland, BT52 1BS Tel: +44 (0) 28 7035 6029 e-mail: regulatory.respiratory@eakinhealthcare.com
1.4	Emergency telephone number	UFI: QPRC-46U7-MHA8-KH2G +44 (0) 1865 407333 (UK)

2	HAZARDS IDENTIFICATION			
2.1	Classification of the substance or mixture			
	Classification according to Regulation (EC) No 1272/2008 (CLP/GHS) – see section 11			
	H315	Skin Irrit. 2		
	H319	Eye Dam. 1		
	H335	STOT SE 3		
2.2	Label elements			
	Labelling in accordance with EC Regulation No 1272/2008 (CLP/GHS)			
	Pictogram		Signal word	WARNING
	Hazard statements			
	H315	Causes skin irritation.		
	H319	Causes serious eye irritation.		
	H335	May cause respiratory irritation.		
	Precautionary statements			
	P280	Wear protective gloves/protective clothing/eye protection/face protection.		
	P314	Get medical advice/attention if you feel unwell.		
	P261	Avoid breathing dust/fume/gas/mist/vapours/spray.		
	P302/352	If on skin: wash with plenty of soap and water.		
	P305/351/338	If in eyes: rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.		
	P332/313	If skin irritation occurs: get medical advice/attention.		
	P304/340	If inhaled: remove victim to fresh air and keep at rest in a position comfortable for breathing.		
	P310	Immediately call a POISON CENTER or doctor/physician.		
	2.3	Other hazards		
None known				

3	COMPOSITION/INFORMATION ON INGREDIENTS					
3.2	Mixture characterisation	Solid base plus additives. The CLP classifications required in this section are related to that of the product supplied. To comply with the legislation the classification of the relevant ingredients of the product, as if they were present at 100%, must be outlined. Where ingredients are present in the product at very low concentrations the level of risk to the user is reduced, hence the reason that the classifications for the individual components and the product are different.				
	Chemical name	CAS-No	Index No.	EC No.	Classification	Concentration
	Calcium Hydroxide	1305-62-0	No data	215-137-3	CLP: Skin Irrit. 2 H315 Eye Dam. 1 H318 STOT SE 3 H335	<85%
	Calcium Sulphate	7778-18-9	No data	231-900-3	Not classified	<1.5%
	Calcium Chloride	10043-52-4	017-013-00-2	233-140-8	Eye Irrit. 2 H319	<3.5%

4	FIRST AID MEASURES
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4.1	Description of first aid measures	
	Inhalation	Remove casualty to fresh air and provide warmth and rest. If upper respiratory tract is inflamed, seek medical advice.
	Skin contact	Clean areas of skin affected immediately with soap and plenty of water. If necessary, seek medical advice.
	Eye contact	Immediately wash out eye thoroughly with plenty of water until irritation subsides; seek medical advice.
	Ingestion	Unlikely route of exposure. But if product is swallowed, do not induce vomiting. Drink plenty of water and, if necessary, seek medical advice.
4.2	Most important symptom and effects, both acute and delayed	Most acute symptom is eye irritation. No known delayed effects.
4.3	Indication of any Immediate medical attention and special treatment needed	Treatment as described above.

5	FIREFIGHTING MEASURES	
5.1	Extinguishing media	Water, Foam, CO ₂ and Powder are all suitable fire extinguishers.
5.2	Special hazards arising from the substance or mixture	Material is non-combustible. Packaging may be combustible.
5.3	Advice for firefighters	Self-contained breathing apparatus may be required

6	ACCIDENTAL RELEASE MEASURES	
6.1	Personal precautions, protective equipment and emergency procedures	Adhere to personal protective measures, avoid inhaling high concentrations of dust and avoid skin and eye contact.
6.2	Environmental precautions	None known.
6.3	Methods and material for containment and cleaning up	In the event of spillage, take up mechanically (e.g. sweep or vacuum up) into tightly closed containers. Adhere to personal protective measures. Flush any remainder with plenty of water. Label container and dispose of as per normal procedures.
6.4	Reference to other sections	See section 8 for personal protective equipment.

7	HANDLING AND STORAGE	
7.1	Precautions for safe handling	Handle with care to avoid spillages.. Avoid the raising and deposition of dust.
7.2	Conditions for safe storage, including any incompatibilities	Store in a clean, dry environment with adequate ventilation. Store sealed containers at ambient conditions, avoiding direct sunlight.
7.3	Specific end use(s)	As a chemical absorbent for carbon dioxide (CO ₂) in anaesthesia.

8	EXPOSURE CONTROL/PERSONAL PROTECTION			
8.1	Control Parameters	Workplace Exposure Limits (WELs) have been assigned by the HSE (EH40/2005)		
		STEL (15 mins)	4	mg/m ³
		LTEL (8 hour TWA)	1	mg/m ³
8.2	Exposure controls			
	Appropriate engineering controls	N/A		
	Personal protection equipment	Observe normal standards for handling chemicals. Wash hands before breaks and after work. Avoid inhalation of dust if raised. Wear personal protective equipment appropriate to the task (see below).		
	Eye/face protection	Safety goggles to minimise risk of eye contamination		
	Skin protection	Suitable gloves; wash thoroughly if skin contact occurs.		
	Respiratory protection	Approved dust mask or respirator for dust (if ventilation is insufficient).		
	Thermal hazards	Excessive heat production during reaction. Canister is likely to reach a maximum temperature of 45°C which is not deemed sufficient to cause damage to skin or body tissues. Care should be taken when removing the canister.		
	Other protection	N/A		

9	PHYSICAL AND CHEMICAL PROPERTIES			
9.1	Information on the basic physical and chemical properties			
	Physical state	Solid white (purple when expired) granules	Colour	White or coloured
	Odour	Odourless	pH	~12.5
	Boiling pt./range	Not determined	Melting point/freezing point	Not determined
	Flash Point	Not applicable	Relative density	~ 2 g/cm ³
	Solubility	Slight	Odour threshold	Not applicable
	Evaporation rate	Not applicable	Flammability	Not applicable
	Lower and upper explosion limit	Not applicable	Vapour Pressure	Not applicable

	Relative vapour density	Not applicable	Partition coeff. Log P oct /Water	Not applicable
	Auto-ignition temperature	Not applicable	Kinematic viscosity	Not applicable
	Explosive properties	Not determined	Oxidising properties	Not determined
	Decomposition temperature	Not determined	Particle characteristics	Not determined
9.2	Other information	None known		

10	STABILITY AND REACTIVITY			
10.1	Reactivity	Heat is generated if exposed to acids		
10.2	Chemical stability	Stable under normal conditions of handling		
10.3	Possibility of hazardous reactions	Hazardous polymerisation will not occur		
10.4	Conditions to avoid	Contact with air – formation of calcium carbonate		
10.5	Incompatible material	Chloroform, trichloroethylene		
10.6	Hazardous decomposition products	None		

11	TOXICOLOGICAL INFORMATION						
11.1	Information on toxicological effects						
	Hazard Class	Method	Species	Route of exposure	Effective dose	Exposure Time	Results
	Acute Toxicity	LD ₅₀	Rat	Oral	> 2000 mg/kg (OECD 425)	No data	Data for calcium hydroxide
	Skin corrosion/irritation	No data	No data	No data	No data	No data	No data
	Serious eye damage/irritation	No data	No data	No data	No data	No data	No data
	Respiratory or skin sensitisation	No data	No data	No data	No data	No data	No data
	Germ cell mutagenicity	No data	No data	No data	No data	No data	No data
	Carcinogenicity	No data	No data	No data	No data	No data	No data
	Reproductive toxicity	No data	No data	No data	No data	No data	No data
	STOT-single exposure	No data	No data	No data	No data	No data	No data
	STOT-repeated exposure	No data	No data	No data	No data	No data	No data
	Aspiration hazard	No data	No data	No data	No data	No data	No data
	Dermal compatibility	Severe to moist skin tissue, eyes, and exposed cuts					
	Mucous membrane	Irritant also to respiratory system and nasal passage.					
	Other information	Repeated or prolonged contact of the skin can cause redness, desquamation, and fissures. Prolonged inhalation of dust may cause respiratory disease due to trace amounts of crystalline silica. Calcium hydroxide is not listed on the MSHA, OSHA or IARC lists of carcinogens.					

12	ECOLOGICAL INFORMATION			
12.1	Toxicity	LC ₅₀	Aquatic organisms	NOEC (14d) for marine water invertebrates: 32 mg/l
12.2	Persistence and degradability	Not relevant for inorganic substance		
12.3	Bioaccumulative potential	Not relevant for inorganic substance		
12.4	Mobility in soil	Low mobility due to low solubility		
12.5	Results of PBT/vPvB assessment	Not relevant for inorganic substance		
12.6	Other adverse effects	None known – converts to naturally occurring minerals		

13	DISPOSAL CONSIDERATIONS	
13.1	Waste treatment methods	Dispose in accordance with national and local authority regulations. Dispose by licensed contractor and carrier. The product should be disposed as non-contaminated clinical waste, unless specifically identified as clinically contaminated or hazardous clinical waste. Primary packaging, such as plastics enclosure container or pouch is an enclosure for this product and is intended for no other purpose. Other packaging such as shelf cartons can be reused and recycled in accordance with national and local authority regulations.

14	TRANSPORT INFORMATION				
14.1	United Nations number (ADR, IMDG, IATA)	Not regulated	14.2	Proper shipping name (ADR, IMDG, IATA)	Not regulated
14.3	Transport class(s)	Not regulated	14.4	Packing group	Not regulated

	(ADR, IMDG, IATA)			(ADR, IMDG, IATA)	
14.5	Environmental hazards (ADR, IMDG, IATA)	None	14.6	Special procedures (ADR, IMDG, IATA)	Not regulated
14.7	Transport in bulk	Not applicable			

15	REGULATORY INFORMATION				
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture	The product is classified in accordance with EC Regulation 1272/2008 (CLP). Other regulatory information and provisions are not applicable for this product.			
15.2	Chemical safety assessment	No chemical safety assessment has been performed for this substance.			

16	OTHER INFORMATION	
Indication of changes	This material safety data sheet has been revised in accordance with EC Regulation 1272/2008 (CLP) and in response to REACH regulations, May 2024.	
Abbreviations or acronyms	None	
Key literature reference and sources of data	Other suppliers' safety data sheets, Annex VI of the CPL Regulation (EC) No 1272/2008, EH40 (2005)	
Classification according to Regulation (EC) Nr 1272/2008		Classification procedure
Skin Corr.1; H315		
Relevant H Statements (number and full text)	H315, cause skin irritation H318, causes serious eye damage H335, may cause respiratory irritation	
Training advice	None	
Further Information	Complies with COSHH Regulations. This information is based on our present state of knowledge and is intended to describe out products from the point of view of the safety requirements. It should not be construed as guaranteeing specific problems.	