

## SDS Hazard Communication Safety Data Sheet according to Regulation (EC) No. 1272/2008 [CLP] Carbon Dioxide absorbents, Spherasorb, Intersorb Plus, LoFloSorb and canisters containing these materials.

SDS Ref MH02042020ABS

Issue 3: 2/4/2020





### 1.1 Product identifier: This Safety data sheet covers the following carbon dioxide absorbent products.

See note 16.1 relating to issue number and changes to previous documents

#### Trade name / designation

2172000 Spherasorb bag Pink to white colour change.  
 2173000 Spherasorb bag White to violet colour change.  
 2174000 Spherasorb jerican Pink to white colour change.  
 2175000 Spherasorb jerican White to violet colour change.  
 2169001 Spherasorb SmartCan disposable CO2 absorber White to violet colour change.  
 2169002 Spherasorb SmartCan disposable CO2 absorber Pink to white colour change.  
 2199001 Spherasorb AbCan disposable CO2 absorber White to violet colour change.  
 2199002 Spherasorb AbCan, disposable CO2 absorber Pink to white colour change.  
 2186000 Spherasorb Drum, CO2 absorbent cartridge White to violet colour change.  
 2187000 Spherasorb Drum, CO2 absorbent cartridge Pink to white colour change.  
 2191001 Spherasorb Pyramid, disposable CO2 absorber White to violet colour change.  
 2192001 Spherasorb Pyramid, disposable CO2 absorber Pink to white colour change.  
 2196000 Spherasorb IS Can, disposable CO2 absorber White to violet colour change.  
 2197000 Spherasorb IS Can, disposable CO2 absorber Pink to white colour change.  
 2130000, Spherasorb Clear-Flo anaesthetic breathing system, 1.6m absorber, pink to white colour change  
 2131000, Spherasorb Clear-Flo anaesthetic breathing system, 1.6m absorber, white to violet colour change  
 2132000, Spherasorb Clear-Flo anaesthetic breathing system with inner lumen, 1.6m absorber, pink to white colour change  
 2133000, Spherasorb Clear-Flo anaesthetic breathing system with inner lumen, 1.6m absorber, white to violet colour change  
 2179000 Intersorb Plus jerican White to Violet colour change.  
 2180000 Intersorb Plus jerican Pink to White colour change.  
 2178000 LoFloSorb jerican Green to violet colour change.  
 2199003 LoFloSorb AbCan, disposable CO2 absorber Green to violet colour change.  
 2188000 LoFloSorb Drum, CO2 absorbent cartridge Green to violet colour change.  
 2193001 LoFloSorb Pyramid, disposable CO2 absorber Green to violet colour change.  
 2198000 LoFloSorb IS Can, disposable CO2 absorber Green to violet colour change.  
 2199003 LoFloSorb AbCan, disposable CO2 absorber Green to violet colour change.  
 2169003 LoFloSorb SmartCan, disposable CO2 absorber Green to violet colour change.

1.2 Relevant identified uses of the substance or mixture and uses advised against	For medical, veterinary or laboratory use to remove carbon dioxide from gas streams. Uses advised against: Not available
1.3 Details of the supplier of the safety data sheet	Intersurgical Ltd, Crane House, Molly Millars Lane, Wokingham, Berkshire, RG41 2RZ, United Kingdom Tel 0044 (0)1189 656300 Fax 0044 (0)1189 656356 Email info@intersurgical.co.uk Web: www.intersurgical.com
1.4 Emergency contact:	Tel 0044 (0)1189 656300 Email info@intersurgical.co.uk

2. Hazards identification	For all product codes shown in section 1.1
2.1 Classification of the substance or mixture	<p>Classification according to Regulation (EC) No. 1272/2008 [CLP]</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-between;"> <div> <p>Classification</p> <p>H315</p> <p>H318</p> </div> <div> <p>Hazard statements</p> <p>Causes skin irritation</p> <p>Causes serious eye damage</p> </div> </div>
2.2 Label elements	<p>Labeling according to Regulation (EC) No. 1272/2008 [CLP]</p> <p>Hazard pictogram(s)</p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <div style="display: flex; justify-content: space-between;"> <div> <p>Signal word</p> <p>Class</p> <p>Product identifiers</p> <p>Classification</p> <p>H315</p> <p>H318</p> </div> <div> <p>Warning</p> <p>Irritant</p> <p>Calcium Hydroxide; Sodium Hydroxide</p> <p>Hazard statements</p> <p>Causes skin irritation</p> <p>Causes serious eye damage</p> </div> </div> <p>Precautionary statements:</p> <div style="display: flex; justify-content: space-between;"> <div> <p>P280</p> <p>P302/P352</p> <p>P305/351/338.</p> <p>P332/313:</p> </div> <div> <p>Wear protective gloves/protective clothing/eye protection/face protection</p> <p>IF ON SKIN: Wash with plenty of soap and water</p> <p>IF IN EYES: Rinse cautiously with water for several minutes.</p> <p>Remove contact lenses, if present and easy to do.</p> <p>Continue rinsing.If skin irritation occurs: Get medical advice/attention</p> </div> </div>
2.3 Other hazards	None

**3. Composition/ Information on ingredients**

## 3.1 Ingredients of Carbon Dioxide granules: As manufactured.




Substance	CAS No	EINECS/ELINCS	Classification (EC 1272/2008)	Spherasorb Soda Lime White to Violet Colour change 2173000 2175000 2183003 2186000 2191001 2196000 2199001 2169001 2130000 2132000	Spherasorb Soda Lime Pink to White Colour change 2172000 2174000 2183004 2187000 2192001 2197000 2199002 2169002 2131000 2133000	Intersorb Plus Soda Lime White to Violet Colour change 2179000	Intersorb Plus Soda Lime Pink to White Colour change 2180000	LoFloSorb CO <sub>2</sub> absorbent Green to Violet Colour change 2178000 2183005 2188000 2193001 2198000 2199003 2169--3
				Content ( % weight )	Content ( % weight )	Content ( % weight )	Content ( % weight )	Content ( % weight )
Calcium Hydroxide	1305-62-0	215-137-3	Skin Irritant H315 Eye Damage H318	75 – 80 %	75 – 80 %	80 – 85 %	80 – 85 %	75 – 80 %
Sodium Hydroxide	1310-73-2	215-185-5	Skin Corrosion. 1A: H314	Under 2 %	Under 2 %	Under 4 %	Under 4 %	ZERO
Zeolite	1318-02-1	215-283-8	Not applicable	4 – 5 %	4 – 5 %	ZERO	ZERO	ZERO
Silica	112926-00-8	231-545-4	Not applicable	ZERO	ZERO	ZERO	ZERO	6 % - 7 %
Ethyl Violet	2390-59-2	219-231-5	Not applicable	Under 0.1 %	ZERO	Under 0.1 %	ZERO	Under 0.1 %
Titan yellow	1829-00-1	217-377-4	Not applicable	ZERO	Under 0.1 %	ZERO	Under 0.1 %	ZERO
Pigment Green	1328-53-6 and 5102-83-0	215-524-7 228-787-8	Not applicable	ZERO	ZERO	ZERO	ZERO	Under 0.1 %
Water				13.5% - 17.5%	13.5% - 17.5%	13.5% - 17.5%	13.5% - 17.5%	13.5% - 17.5%

4 First-aid measures	For all product codes shown in section 1.1
4.1 Description of first aid measures	<p>General information            In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).            Remove victim out of the danger area.            Keep affected person warm, still and covered.            Do not leave affected person unattended.</p> <p>Following inhalation            Remove person to fresh air and keep comfortable for breathing.            If unconscious but breathing normally, place in recovery position and seek medical advice.            No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.</p> <p>Following skin contact            Remove contaminated, saturated clothing immediately.            After contact with skin, wash immediately with plenty of water and soap.            Take off immediately all contaminated clothing.            In case of skin irritation, consult a physician.            Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.</p> <p>Following eye contact            Remove contact lenses, if present and easy to do. Continue rinsing.            In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.</p> <p>Following ingestion            Never give anything by mouth to an unconscious person or a person with cramps.            IF SWALLOWED: rinse mouth.            Do NOT induce vomiting.</p> <p>Self-protection of the first aider            First aider: Pay attention to self-protection!</p>
4.2. Most important symptoms and effects, both acute and delayed	Eye irritation
4.3. Indication of any immediate medical attention and special treatment needed	Notes for the doctor Treat symptomatically.

<b>5. Firefighting measures</b> For all product codes shown in section 1.1	
5.1 Extinguishing media	
Suitable extinguishing media	Extinguishing powder.
Unsuitable extinguishing media	Strong water jet. DO NOT USE Carbon dioxide (CO <sub>2</sub> ).
5.2. Special hazards arising from the substance or mixture	Formation of toxic gases is possible during heating or in case of fire. Extreme exothermic reactions with pure / high concentrations of carbon dioxide. Reacts aggressively with acids.
5.3. Advice for fire fighters	Wear a self-contained breathing apparatus and chemical protective clothing.

<b>6. Accidental release measures</b> For all product codes shown in section 1.1	
6.1. Personal precautions, protective equipment and emergency procedures	Use personal protection equipment. Remove persons to safety. Use appropriate respiratory protection. Provide adequate ventilation.
6.2 Environmental precautions	Ensure waste is collected and contained. Do not allow product to enter into surface water or drains.
6.3 Methods and material for containment and cleaning up	Treat the recovered material as prescribed in the section on waste disposal. Collect in closed and suitable containers for disposal. Clean contaminated objects and areas thoroughly observing environmental regulations. Ventilate affected area.
6.4. Reference to other sections	Safe handling: see section 7 Disposal: see section 13 Personal protection equipment: see section 8

<b>7. Handling and storage</b> For all product codes shown in section 1.1	
7.1 Precautions for safe handling	Handle in accordance with good hygiene and safety practice. Avoid the raising and deposition of dust. Do not ingest or inhale
7.2 Conditions for safe storage, including any incompatibilities	Store in a tightly closed/sealed container. Store in dry, well-ventilated area away from incompatible substances. Do not store in direct sunlight. Keep away from strong acids. Store protected from moisture.  Store ideally at room temperature, but not outside temperatures ranging from $-20^{\circ}\text{C}$ to $+50^{\circ}\text{C}$ . Do not allow to desiccate (dry out). Facilities storing or utilizing this material should be equipped with an eyewash facility. Store in a safe place away from children and not together with or near food, animal feed.
7.3 Specific end use(s)	For absorbing Carbon Dioxide

<b>8. Exposure controls / Personal protection.</b> For all product codes shown in section 1.1			
8.1 Control Parameters			
Occupational exposure limits			
Substance	Value	Unit	Type
Calcium Hydroxide 1305-62-0	4	mg/m <sup>3</sup>	Short term exposure limit
	1	mg/m <sup>3</sup>	Long term exposure limit (TWA)
Sodium Hydroxide 1310-73-2	2	mg/m <sup>3</sup>	Short term exposure limit
8.2 Exposure controls	<p>Engineering controls: Provide adequate ventilation as well as local exhaust at critical locations.</p> <div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p>Personal protective equipment</p> <p>Eye / face protection: Use approved safety goggles or face shield.</p> <p>Skin protection: Use protective gloves made of: Rubber or plastic.</p> <p>Protective clothing: Wear appropriate clothing to prevent reasonably probable skin contact</p> <p>Respiratory protection: Work in fume cupboard if possible Wear respirator if there is dust formation. Dust filter P2 (for fine dust).</p> <p>Additional information: Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. have eye shower equipment available.</p>		

<b>9. Physical and chemical properties</b> For all product codes shown in section 1.1	
9.1 Information on basic physical and chemical properties of granules	
Appearance	Solid porous granules 3- 4 mm.
Odour:	Slight chemical smell
Odour threshold	No data available
pH	pH14
Melting point/freezing point	Not applicable.
Initial boiling point and boiling range	Not applicable.
Flash point	No data available
Evaporation rate	Not applicable
Flammability:	The product is not considered to be an explosive hazard.
Vapour pressure	No data available
Vapour density	No data available
Relative density	0.70 – 0.85 g/ml
Solubility	Only slightly soluble in water.
Auto-ignition temperature	No data available
Decomposition temperature	Thermal decomposition to oxides at over 500 deg C
Viscosity	Not applicable
Explosive properties	The product is not considered to be an explosive hazard.
Oxidising properties	Not applicable
9.2 Other safety information	Not available

<b>10. Stability and reactivity</b> For all product codes shown in section 1.1	
10.1 Reactivity	Extreme exothermic reactions with pure / high concentrations of carbon dioxide. React aggressively with acids. Variable reactivity with different acidic gases.
10.2 Chemical stability	Stable when stored correctly.
10.3 Possibility of hazardous reactions:	Extreme exothermic reactions with pure / high concentrations of carbon dioxide. Reacts aggressively with acids. Potentially toxic fumes can be produced with some acids.
10.4 Conditions to avoid:	Avoid contact with acids. Do not use with trichloroethylene and chloroform. Avoid contact with pure / high concentration of Carbon Dioxide.
10.5 Incompatible materials.	The product will corrode some metal and may degrade condensation polymers.
10.6 Hazardous decomposition products	Fire or high temperatures create can create harmful fumes of sodium oxide and calcium oxide.

<b>11. Toxicity Information.</b> For all product codes shown in section 1.1	
11.1 Acute oral toxicity	Date for mixture Not available Data for Calcium Hydroxide Oral LD50> 2000 mg/kg (OECD 425, rat)
11.2 Acute dermal toxicity	Severe to moist skin tissue, eyes and exposed cuts
11.3 Acute inhalation toxicity	Irritant to respiratory system and nasal passage.
11.4 Skin corrosion/irritation	Severe to moist skin tissue
11.5 Serious eye damage/irritation	Causes serious eye damage
11.6 Respiratory or skin sensitisation	No data available
11.7 STOT-repeated exposure (STOT RE)	No data available
11.8 STOT-single exposure (STOT SE)	No data available
11.9 Carcinogenicity	No data available. Not expected
11.10 Reproductive toxicity	No data available. Not expected
11.11 Germ cell mutagenicity	No data available. Not expected



<b>12. Ecological information</b> For all product codes shown in section 1.1	Summary: Ecotoxicity Not regarded as dangerous for the environment. Bioaccumulative potential No bioaccumulation expected. Acute fish toxicity No acute toxicity of fish expected.
12.01. Short term aquatic toxicity	Data for mixture Not available
12.02. Long term aquatic toxicity	Data for mixture Not available
	Data for mixture Not available
12.03. Short term sediment toxicity	Data for mixture Not available
12.04. Long term sediment toxicity	Data for mixture Not available
12.05. Persistence and degradability	Data for mixture Not available
12.06. Abiotic degradation	Data for mixture Not available: Not relevant for inorganic mixture
12.07. Bioaccumulative potential	Data for mixture Not available: Not relevant for inorganic mixture
12.08. Mobility in soil	Data for mixture Not available: Expected to be low due to low solubility
12.09. Results of PBT and vPvB assessment	Data for mixture Not available: Not relevant for inorganic mixture
12.08. Other adverse effects	Data for mixture Not available

<b>13. Disposal considerations</b>	For all product codes shown in section 1.1
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13.1 Waste treatment methods	<p>The following information is a guideline only. Disposal of waste Carbon Dioxide absorbents must be in accordance with local authority regulations and following a risk analysis by the user.</p> <p>Intersurgical carbon dioxide absorbents do not contain any toxic materials and are not classified as dangerous materials, according to the United Nations Dangerous Goods List 2010.</p> <p>Contents (Composition will vary depending upon product and whether it is used or unused and the conditions of use.)</p> <ul style="list-style-type: none"> <li>•Calcium Carbonate (zero up to major proportion)</li> <li>•Calcium Hydroxide (significant to major proportion)</li> <li>•Sodium Carbonate (zero to minor proportion depending on product and usage)</li> <li>•Sodium Hydroxide (varying minor proportion depending on product and usage)</li> </ul> <p>Zeolite (zero to minor proportion depending on product and usage)</p> <p>Silica (zero to minor proportion depending on product and usage)</p> <ul style="list-style-type: none"> <li>•Water (varying major proportion)</li> <li>•There will also be a trace of indicator dye.</li> <li>•There may be residual traces of volatile anaesthetics.</li> </ul> <p>Used and unused product has the property of HP4, with the disposal European Waste Catalogue number 18 01 06* ('Chemical consisting of or containing hazardous substances').</p> <p>Intersurgical recommends that following clinical use during anaesthesia, especially with an infectious patient (which will not always be known), a risk assessment should be conducted as a consequence of clinical use. This is to assess whether the waste product also requires further classification under the European Waste Catalogue number 18 01 03* (waste whose collection and disposal is subject to special requirements in order to prevent infection).</p> <p>However, disposal of waste must be in accordance with local authority regulations and following a risk analysis by the user.</p>
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<b>14: Transport information</b> For all product codes shown in section 1.1	
14.1. UN number	The product is not hazardous and is exempt according to the applicable transport regulations (ADR / RID / ADN / IMDG / ICAO / IATA).
14.2. UN proper shipping name	Non applicable
14.3. Transport hazard class(es)	Non applicable
14.4. Packing group	Non applicable
14.5. Environmental hazards	Non applicable
14.6. Special precautions for user	Non applicable
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Non applicable

<b>15. Regulatory Information.</b> For all product codes shown in section 1.1	
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	A chemical safety assessment has not been performed for this substance

<b>16. Other information</b> For all product codes shown in section 1.1	
16.1 Date of issue	<p>This safety data sheet has been revised in accordance to EC regulation 1272/2008 (CLP), by Intersurgical, to the best of its knowledge.</p> <p>Version date: 22/02/2018</p> <p>Printing date: 22/02/2018</p> <p>Data changed compared with the previous version:</p> <p>This safety data sheet is a generic document for all Intersurgical documents and replaces all previous separate Intersurgical carbon dioxide absorbent safety data sheets prior to the above date.</p> <p>Being the first generic safety data sheet for Intersurgical absorbents, this has been given Issue Number 1</p> <p>The products are unchanged, but all sections from 1 to 16 have been updated to provide up-to-date information.</p>
16.2. Abbreviations and acronyms	<p>ADN/ADNR: Regulations concerning the transport of dangerous substances in barges on inland waterways.</p> <p>ADR/RID: European Agreement concerns the International Carriage of Dangerous Goods by Road/ Regulations concerning the international carriage of dangerous goods by rail.</p> <p>CAS No.: Chemical Abstract Service Number</p> <p>CLP: Classification, Labelling and Packaging</p> <p>IATA: International Air Transport Association</p>

		IMDG: International Maritime Dangerous Goods code N°UN: United Nations Number N°EC: European Commission Number vPvB: Very Persistent, very Bioaccumulative		
16.3. Key literature references and sources for data		Guidance on Labeling and Packaging under the CLP regulation 2011 Guidance on the compilation of safety data sheets version 3.1 November 2015 Globally Harmonized System of Classification, Chapter 2 European Waste Catalogue (2001/118/EC as amended), Safety data sheets of raw materials and packaging. Other supplier safety data sheets.		
16.4. Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 [CLP]		REACH Regulation EC 1907/2006, Regulation (EC) 1272/2008 and Regulation (EC) 453/2010). Intersurgical carbon dioxide absorbents are mixtures of component chemicals and as such, they do not need to be registered for REACH. However, the components chemicals used within them do need to be registered by our suppliers, unless they are manufactured or imported at less than 1 tonne per year, per manufacturer/importer		
Ingredient	Product	CAS No	EINECS/ELINCS	REACH registration No
Calcium Hydroxide	Spherasorb LoFloSorb and Intersorb Plus	1305-62-0	215-137-3	01 - 2119475151 - 45 – 0135
Sodium Hydroxide	Spherasorb and Intersorb Plus	1310-73-2	215-185-5	01-2119457892-27
Zeolite	Spherasorb	1318-02-1	215-283-8	01-2119429034-49-0010
Silica	LoFloSorb	112926-00-8	231-545-4	01-2119379499-16-0446
16.5. Relevant R-, H- and EUH-phrases (Number and full text)		H315 Causes skin irritation H318 Causes serious eye damage Precautionary statements: P280 Wear protective gloves/protective clothing/eye protection/face protection P302/P352 IF ON SKIN: Wash with plenty of soap and water P305/351/338. IF IN EYES: Rinse cautiously with water for several minutes. P332/313: Remove contact lenses, if present and easy to do. Continue rinsing.If skin irritation occurs: Get medical advice/attention		
16.6. Training advice		Refer to sections 4, 5, 6, 7 and 8 of this safety data sheet.		
16.7 Shelf life		Five years 2172000 2173000 2174000 2175000 2183003 2183000 2186000 2187000 2191001 2192001	Three years 2178000 2183005 2188000 2193001 2198000 2199003 2169003	

	2196000 2197000 2179000 2180000 2199001 2199002 2169001 2169002	
16.8 Disclaimer	<p>This version of the SDS supersedes all previous versions. Its contents are intended as a guide to the appropriate handling of the materials listed in section 1.1. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with these products. This SDS should not be construed as any guarantee of technical performance, suitability for particular applications and does not establish a legally valid contractual relationship.</p> <p>This version of the SDS supersedes all previous versions. The information is based on our present state of knowledge and is intended to describe our product from the point of view of the safety requirements.</p>	

2/4/2020

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General information

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