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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 ca	arbon 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 c			
2199001 Spherasorb AbCan disposable CO2 absorber White to violet col			
2199002 Spherasorb AbCan, disposable CO2 absorber Pink to white colo			
2186000 Spherasorb Drum, CO2 absorbent cartridge White to violet color			
2187000 Spherasorb Drum, CO2 absorbent cartridge Pink to white colour			
2191001 Spherasorb Pyramid, disposable CO2 absorber White to violet c			
2192001 Spherasorb Pyramid, disposable CO2 absorber Pink to white co			
2196000 Spherasorb IS Can, disposable CO2 absorber White to violet co			
2197000 Spherasorb IS Can, disposable CO2 absorber Pink to white cold			
2130000, Spherasorb Clear-Flo anaesthetic breathing system, 1.6m abso			
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 I	umen, 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	For medical, veterinary or laboratory use to remove carbon dioxide from gas streams.		
advised against	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		
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2.1 Classification of the substance or mixture	Classification accordin	g to Regulation (EC) No. 1272/2008 [CLP]
	Classification	Hazard statements
	H315	Causes skin irritation
	H318	Causes serious eye damage
	Signal word	Warning
	Class	Irritant
	Product identifiers	Calcium Hydroxide; Sodium Hydroxide
	Classification	Hazard statements
	H315 H318	Causes skin irritation Causes serious eye damage
	Precautionary stateme	
		Maar protoctive aloung/protoctive electring/our protoction/face protoction
	P280	Wear protective gloves/protective clothing/eye protection/face protection
	P302/P352	IF ON SKIN: Wash with plenty of soap and water
	P302/P352 P305/351/338.	IF ON SKIN: Wash with plenty of soap and water IF IN EYES: Rinse cautiously with water for several minutes.
	P302/P352	IF ON SKIN: Wash with plenty of soap and water



3. Composition/ Inf	ormation on ingre	dients						
3.1 Ingredients of Ca	arbon Dioxide granu	les: 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 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 ₂ absorbent Green to Violet Colour change 2178000 2183005 2188000 2193001 2198000 2199003 21693
				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%



A First aid measures Fax all made at a day in a stimul	4
4 First-aid measures For all product codes shown in section 1	
4.1 Description of first aid measures	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.
	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.
	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.
	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.
	Following ingestion
	Never give anything by mouth to an unconscious person or a person with cramps.
	IF SWÄLLOWED: rinse mouth.
	Do NOT induce vomiting.
	Self-protection of the first aider
	First aider: Pay attention to self-protection!
4.2. Most important symptoms and effects, both acute and delayed	Eye irritation
4.3. Indication of any immediate medical attention and special treatment	Notes for the doctor
needed	Treat symptomatically.



5. Firefighting measures 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 (CO2).
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.

6. Accidental release measures 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.	
F	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	



7. Handling and storage 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°C to +50°C. Do not allow to desiccate (dry out). Facilities storing or utilizing this material should be equipped with an eyewash facility.
7.3 Specific end use(s)	Store in a safe place away from children and not together with or near food, animal feed.For absorbing Carbon Dioxide

8.1 Control Parameters			
Occupational exposure limits			
Substance	Value	Unit	Туре
Calcium Hydroxide 1305-62-0	4	mg/m ³ mg/m ³	Short term exposure limit Long term exposure limit (TWA)
Sodium Hydroxide 1310-73-2	2	mg/m ³	Short term exposure limit
8.2 Exposure controls	Engineering controls: Provide adequate v		
	Personal protective equipment		
	Eye / face protection: Use approved safet	ty goggles or face shield.	
	Skin protection: Use protective gloves ma		
	Protective clothing: Wear appropriate clot	hing to prevent reasonably probable s	skin contact
	Respiratory protection: Work in fume cupl	board if possible Wear respirator if the	ere is dust formation. Dust filter P2 (for fine dust)
	Additional information: Wash hands befor	e breaks and after work. Avoid contac	ct with skin and eyes. When using do not eat,



9. Physical and chemical properties 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	
рН	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	



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.

11. Toxicity Information. 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	



12. Ecological information 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

13. Disposal considerations For all product codes shown in section 1.1



13.1 Waste	The following information is a guideline only. Disposal of waste Carbon Dioxide absorbents must be in accordance with local authority regulations and following a
treatment	risk analysis by the user.
methods	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.
	Contents (Composition will vary depending upon product and whether it is used or unused and the conditions of use.)
	Calcium Carbonate (zero up to major proportion)
	•Calcium Hydroxide (significant to major proportion)
	 Sodium Carbonate (zero to minor proportion depending on product and usage)
	 Sodium Hydroxide (varying minor proportion depending on product and usage)
	Zeolite (zero to minor proportion depending on product and usage)
	Silica (zero to minor proportion depending on product and usage)
	•Water (varying major proportion)
	•There will also be a trace of indicator dye.
	•There may be residual traces of volatile anaesthetics.
	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').
	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).
	However, disposal of waste must be in accordance with local authority regulations and following a risk analysis by the user.

14: Transport information 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	Non applicable			
the IBC Code				



15. Regulatory Information. For all product codes shown in section 1.1				
15.1. Safety, health and environmental regulations/legislation specific	The product is classified in accordance with EC Regulation 1272/2008 (CLP). Other regulatory information			
for the substance or mixture	and provisions are not applicable for this product.			
15.2. Chemical Safety Assessment	A chemical safety assessment has not been performed for this substance			

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



		N°UN: United Nations N N°EC: European Comm	nission Number			
16.3. Key literature r	eferences and sources for data		vPvB: Very Persistent, very Bioaccumulative Guidance on Labeling and Packaging under the CLP regulation 2011			
		-	lation of safety data sheets version			
		-	ystem 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.				
	or mixtures and used evaluation method on (EC) 1272/2008 [CLP]	REACH Regulation EC Intersurgical carbon dio to be registered for REA	1907/2006, Regulation (EC) 127 xide absorbents are mixtures of a ACH. However, the components of	2/2008 and Regulation (EC) 453/2010). component chemicals and as such, they do not need chemicals used within them do need to be registered ted at less than 1 tonne per year, per		
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) 16.6. Training advice		H315Causes skin irritationH318Causes serious eye damagePrecautionary statements:P280P280Wear protective gloves/protective clothing/eye protection/face protectionP302/P352IF ON SKIN: Wash with plenty of soap and waterP305/351/338.IF IN EYES: Rinse cautiously with water for several minutes.P332/313:Remove contact lenses, if present and easy to do. Continue rinsing.lf skin				
		irritation occurs: Get medical advice/attention				
		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		



2 2 2 2 2	2199001 2199002 2169001 2169002	a its contents are intended as a quide to the
a e h g c T	This version of the SDS supersedes all previous version appropriate handling of the materials listed in section 1. ensure that the information contained therein is properly handle, dispose or in any way come in contact with the guarantee of technical performance, suitability for partic contractual relationship. This version of the SDS supersedes all previous version knowledge and is intended to describe our product from	1. It is the responsibility of recipients of this SDS to y read and understood by all people who may use, se products. This SDS should not be construed as any cular applications and does not establish a legally valid ns. The information is based on our present state of

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