

Safety Data Sheet



Product name:

Sofnofil

Document N°: LB01-00408

Issue: 1

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SECTION 1		IDENTIFICATION OF SUBSTANCE / PREPARATION AND OF THE COMPANY
1.1	Product identifier	Sofnofil (impregnated activated alumina)
	UFI no.	333-POFR-G004-GVRE
1.2	Relevant identified uses of the substance or mixture and uses advised against	Relevant identified uses: An odour absorbent for industrial air purification (e.g., in paper mills, sewage treatment) Uses advised against: no data Reason why uses advised against: no data
1.3	Details of the supplier of the safety data sheet	Molecular Products Ltd, Parkway, Harlow Business Park, Harlow, Essex, CM19 5FR, UK +44 (0) 1279 445111 (I) sds@molprod.com (I) Only available during office hours 0900 – 1700 GMT
1.4	Emergency telephone number	+44 (0) 1279 445111 (office hours) +44 (0) 1865 407333 (out of hours, English speaking) China (NRCC): +86 532 8388 9090 Mexico: +52 555 004 8763, Chile: +56 225 829 336, Brasil: +55 11 3197 5891

SECTION 2		HAZARDS IDENTIFICATION		
2.1		Classification of the substance or mixture		
2.1.1		Classification according to Regulation (EC) No 1272/2008 (CLP)		
2.1.2		See section 16 for full text of H statements		
2.2		Labelling elements		
2.2.1		Labelling in accordance with EC Regulation No 1272/2008 (CLP/GHS)		
Pictogram		Signal word	DANGER	
Hazard statements	H314: Causes severe skin burns and eye damage H361d: Suspected of damaging the unborn child			
Precautionary statements	P260: Do not breathe dust/fume/gas/mist/vapours/spray. P264: Wash hands thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501: Dispose of contents/container in accordance with local regulations for this hazard rating			
2.3		Other hazards		
		Dust may cause irritation of skin and eyes.		

SECTION 3		COMPOSITION / INFORMATION ON INGREDIENTS			
Chemical characterisation					
Chemical name	CAS-No	EC no.	Classification	Concentration	
Aluminium oxide	1344-28-1	215-619-6	Not classified	> 80%	
Potassium permanganate	7722-64-7	231-760-3	Ox. Sol. 2 H272 Acute Tox. 4 H302 Causes severe skin burns and eye damage H314 Repr. 2 H361d STOT RE 2 H373 Aquatic Acute 1 H400 Aquatic Chronic 1 H410	< 6%	

SECTION 4		FIRST AID MEASURES
4.1		Description of measures
Inhalation	Remove casualty to fresh air and provide warmth and rest	
Skin contact	Clean areas of skin affected with soap and plenty of water. If necessary, seek medical advice	
Eye contact	Wash out eye thoroughly with plenty of water until irritation subsides; if necessary, consult an eye specialist/ophthalmologist	
Ingestion	If product is swallowed, do not induce vomiting. Drink plenty of water and, if necessary, seek medical advice	

4.2	Most important effects/symptoms	None known
4.3	Immediate/special treatment	Treatment as described above

SECTION 5 FIRE FIGHTING MEASURES		
5.1	Extinguishing media	To suit local surroundings (e.g., chemical powder, carbon dioxide, dry sand, water)
5.2	Special hazards	Product is not flammable. No hazards except low volumes of oxygen may be released in a fire
5.3	Advice for fire fighters	Self-contained breathing apparatus may be required

SECTION 6 ACCIDENTAL RELEASE MEASURES		
6.1	Personal precautions	Adhere to personal protective measures. Avoid inhalation of dust
6.2	Environmental precautions	Do not allow to get into wastewater or waterways; if this occurs, inform the relevant water authority at once
6.3	Methods and materials for 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
6.4	Reference to other sections	See section 8 for personal protective equipment

SECTION 7 HANDLING AND STORAGE		
7.1	Precautions for safe handling	Handle in accordance with good hygiene and safety practice. Avoid the raising and deposition of dust
7.2	Conditions for safe storage	Ensure adequate ventilation of the storage area. Keep containers tightly closed, at temperatures < 190°C and dry
7.3	Specific end use(s)	An odour absorbent for industrial air purification

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION									
8.1	Workplace Exposure Limits (WELs) have been assigned by the HSE (EH40/2020)								
	LTEL (8-hour TWA)			10 mg/m ³			Data for inhalable aluminium oxide dust		
	LTEL (8-hour TWA)			4 mg/m ³			Data for respirable aluminium oxide dust		
	Substance name		Aluminium oxide						
	EC number		215-619-6		CAS number		1344-28-1		
	DNELs								
		Workers				Consumers			
	Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic
	Oral	Not required				No data	No hazard identified	No data	1.32 mg/m ³
	Inhalation	No hazard identified	No hazard identified	3 mg/m ³	3 mg/m ³	No hazard identified	No hazard identified	0.75 mg/m ³	0.75 mg/m ³
	Dermal	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified	No hazard identified
	PNECs								
	Environmental protection target					PNEC			
	Fresh water					No hazard identified			
	Freshwater sediments					No hazard identified			
	Marine water					No hazard identified			
	Marine sediments					No hazard identified			
	Food chain					No potential for bioaccumulation			
	Microorganisms in sewage treatment					No hazard identified			
	Soil (agriculture)					No hazard identified			
	Air					No hazard identified			

	Substance name		Potassium permanganate						
	EC number		231-760-3		CAS number		7722-64-7		
	DNELs								
		Workers				Consumers			
	Route of exposure	Acute effect local	Acute effects systemic	Chronic effects local	Chronic effects systemic	Acute effects local	Acute effects systemic	Chronic effects local	Chronic effects systemic
	Oral	Not required				No data	No data	No data	No data

	Inhalation	Low hazard (No threshold derived)	Low hazard (No threshold derived)	Low hazard (No threshold derived)	0.2 mg/m ³	Medium hazard (No threshold derived)	Low hazard (No threshold derived)	Medium hazard (No threshold derived)	0.039 mg/m ³
	Dermal	No data	No data	No data	No data	Medium hazard (No threshold derived)	No data	Medium hazard (No threshold derived)	No data
PNECs									
Environmental protection target					PNEC				
Fresh water					0.06 µg/L				
Freshwater sediments					No exposure expected				
Marine water					No data				
Marine sediments					No exposure expected				
Food chain					No data				
Microorganisms in sewage treatment					1.64 mg/L				
Soil (agriculture)					No exposure of soil expected				
Air					No hazard identified				

8.2	Exposure controls	
	Appropriate engineering controls	Substance/mixture related measures to prevent exposure during identified uses: no data Structural measures to prevent exposure: Provide adequate ventilation (e.g., local exhaust ventilation) Organisational measures to prevent exposure: no data Technical measures to prevent exposure: Local exhaust ventilation.
	Personal protection equipment	Observe normal standards for handling chemicals Wash hands before breaks and after work Avoid raising dust. Wear personal protective equipment appropriate to the task (see below)
	Eye and face protection	Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as EN 166(EU).
	Skin protection	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves need to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it. Body protection, impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
	Respiratory protection	For nuisance exposure use type P1 (EU EN 143) particulate respirator. For higher level protection use type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as CEN (EU).
	Thermal hazards	This material, when exposed to water, can become hot and heat water to boiling point. Flood with water to reduce the temperature.
	Environmental exposure controls	Substance/mixture related measures to prevent exposure: No data Instruction measures to prevent exposure: No data Organisational measures to prevent exposure: No data Technical measures to prevent exposure: No data

SECTION 9		PHYSICAL AND CHEMICAL PROPERTIES		
9.1	Basic physical and chemical properties			
	Physical form	Solid	Colour	Purple (brown after use)
	Odour	Odourless	pH	Not determined
	Boiling pt/range	Not determined	Melting pt/range	Not determined
	Flash point	Not applicable	Relative density	3.3 g/cm ³
	Water solubility	Slight. Potassium permanganate will leach out to give purple/brown colour	Odour threshold	Not applicable
	Evaporation rate	Not applicable	Flammability	Not applicable
	Explosion limits	Not applicable	Vapour pressure	Not applicable
	Vapour density	Not applicable	Partition coeff. Log P _{oct} /water	Not applicable
	Auto-ignition temperature	Not applicable	Viscosity	Not applicable
	Explosive properties	Not determined	Oxidising properties	Not determined
	Decomposition temperature	Not determined		
9.2	Other information	None known		

SECTION 10		STABILITY AND REACTIVITY	
10.1	Reactivity	None known	
10.2	Chemical stability	Stable under normal conditions of handling	
10.3	Hazardous reactions	Hazardous polymerisation will not occur	


10.4	Conditions to avoid	Contact with oxidisable material and temperatures > 190°C
10.5	Incompatible material	Oxidisable materials
10.6	Hazardous decomposition products	None

SECTION 11		TOXICOLOGICAL INFORMATION					
11.1		Information on hazard classes as defined in Regulation (EC) No 1272/2008					
		Information for potassium permanganate as aluminium oxide is not classified					
	Hazard class	Method	Species	Route of exposure	Effective dose	Exposure time	Results
	Acute toxicity	LD ₅₀	Rat (female)	oral	No data	No data	>2000 mg/kg bw
		LD ₅₀	Rat (male/female)	dermal	No data	No data	>2000 mg/kg bw
	Skin corrosion/irritation	Classified as a serious skin corrosive.					
	Serious eye damage/irritation	Classified as causing serious eye damage					
	Respiratory or skin sensitisation	Not classified as a contact allergen					
	Germ cell mutagenicity	Not classified as a mutagen					
	Carcinogenicity	Not classified as carcinogenic.					
	Reproductive toxicity	Classified a reprotoxic					
	Summary of evaluation of the CMR properties	Potassium permanganate is not classified as carcinogenic or mutagenic, but it is classified reprotoxic. The study shows that overall, by weight of evidence a Repro 2 for development is proposed as self-classification for KMnO ₄ - also approved by the RAC and supported by ANSES CoRAP evaluation report.					
	STOT-single exposure	Not classified					
	STOT-repeated exposure	Based on the read-across with other manganese compounds such as MnCl ₂ and MnSO ₄ , the Lead registrants proposed to change their self-classification to STOT RE 2 – H373 (brain; inhalation) considering the brain as the primary known target for manganese toxicity. This classification is based on weight of evidence - several studies on human and animals reporting neurotoxic effects upon inhalation at varying level of exposure.					
	Aspiration hazard	No data					
11.2		Information on other hazards					
		No data					

SECTION 12		ECOLOGICAL INFORMATION			
Results are for potassium permanganate					
12.1	Toxicity to aquatic algae	ErC50 0.43 mg/L	No data		
	Toxicity to bacteria	EC ₅₀ 164 mg/L	ASRIT		
12.2	Persistence and degradability	Using lab conditions, the half-life times of hydrolysis at pH 4, pH7 and pH9 was estimated as higher than 1 year at 25°C. It should be noted that potassium permanganate is well known as a strong oxidizing agent. Its stability would be probably considerably shorter in contact with oxidizable substances as it could be the case of in real environmental conditions. The experiment with the phthalate buffer illustrates this.	Hydrolysis		
12.3	Bio-accumulative potential	No data, inorganic substance.			
12.4	Mobility in soil	No data, inorganic substance.			
12.5	PBT/vPvB assessment	No data, inorganic substance.			
12.6	Other adverse effects	No data, inorganic substance.			

SECTION 13		DISPOSAL CONSIDERATIONS
13.1	Product/ Packaging	If possible, recycle to supplier or approved recycling company. If not (e.g., designated as waste), dispose of in

	disposal	accordance with national and local authority regulations, e.g. The Hazardous Waste (England & Wales) Regulations 2005. Material is a special waste under UK legislation. Treat empty containers in the same way as the product. If possible, wash out thoroughly and recycle
	Waste treatment-relevant information	Do not introduce into the environment. Collect effluent into containers and send to qualified disposal company in labelled containers. Contaminated packaging must be disposed of as dangerous waste material
	Sewage disposal-relevant information	No data
	Other disposal recommendations	Contaminated packaging, dispose of as unused product.

SECTION 14 TRANSPORT INFORMATION					
14.1	United Nations number (ADR, IMDG, IATA)	UN 1759	14.2	Proper shipping name (ADR, IMDG, IATA)	CORROSIVE SOLID N.O.S.
14.3	Transport class(s) (ADR, IMDG, IATA)	8	14.4	Packing group (ADR, IMDG, IATA)	III
14.5	Environmental hazards (ADR, IMDG, IATA)	The product should not be marked as a marine pollutant	14.6	Special procedures (ADR, IMDG, IATA)	This substance is corrosive to skin 
14.7	Transport in bulk	Not applicable			

SECTION 15 REGULATORY INFORMATION	
Classification & labelling	The SDS has been updated in accordance with EC Regulation No 1272/2008 (CLP) Annex II update, June 2020

SECTION 16 OTHER INFORMATION			
Further information	The SDS has been revised in accordance with EC Regulation 1272/2008 (CLP)		
	Complies with COSHH Regulations		
Hazard statements referred to in sections 2-15			
H272	May intensify fire; oxidiser	H373	May cause damage to the brain through prolonged or repeated exposure by inhalation.
H302	Harmful if swallowed	H400	Very toxic to aquatic life
H314	Causes severe skin burns and eye damage	H410	Toxic to aquatic life with long lasting effects.
H361d	Suspected of damaging the unborn child		
Sources of data	Other suppliers' safety data sheets, EH40		
Prepared by	Dr Patricia Wormald, Molecular Products, PW@molprod.com Neil Stearn, Cambridge Environmental Assessments; neil.stearn@cea-res.co.uk		
Date of issue	30 August 2021		
This information is based on our present state of knowledge and is intended to describe our products from the point of view of the safety requirements. It should not be construed as guaranteeing specific problems			