



SAFETY DATA SHEET

Creation Date 20-Jun-2011

Revision Date 06-Oct-2015

Revision Number 3

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product Description: Sodium perborate tetrahydrate
Cat No. : 223200000; 223200010; 223200250
CAS-No 10486-00-7
Molecular Formula B Na O3 . 4 H2 O
Reach Registration Number 01-2119516039-43 (for the anhydrous form)

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.
Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category PC21 - Laboratory chemicals
Process categories PROC15 - Use as a laboratory reagent
Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Acros Organics BVBA
Janssen Pharmaceuticaan 3a
2440 Geel, Belgium
E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

Acute Inhalation Toxicity - Dusts and Mists	Category 4
Serious Eye Damage/Eye Irritation	Category 1
Reproductive Toxicity	Category 1B
Specific target organ toxicity - (single exposure)	Category 3

Environmental hazards

Based on available data, the classification criteria are not met

2.2. Label elements

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015



Signal Word

Danger

Hazard Statements

- H318 - Causes serious eye damage
- H332 - Harmful if inhaled
- H335 - May cause respiratory irritation
- H360Df - May damage the unborn child. Suspected of damaging fertility

Precautionary Statements

- P202 - Do not handle until all safety precautions have been read and understood
- P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
- P280 - Wear eye protection/ face protection
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P308 + P313 - IF exposed or concerned: Get medical advice/ attention
- P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Additional EU labelling

Restricted to professional users

2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Sodium perborate tetrahydrate	10486-00-7		>95	Acute Tox. 4 (H332) Eye Dam. 1 (H318) STOT SE 3 (H335) Repr. 1B (H360Df)
Sodium perborate	7632-04-4	EEC No. 231-556-4	-	Ox. Sol. 2 (H272) Acute Tox. 4 (H302) Eye Dam. 1 (H318) STOT SE 3 (H335) Repr. 1B (H360Df)

Reach Registration Number

01-2119516039-43 (for the anhydrous form)

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

	clothes and shoes. Obtain medical attention.
Ingestion	Clean mouth with water. Get medical attention.
Inhalation	Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Obtain medical attention.
Protection of First-aiders	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

Causes eye burns.

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

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products

Oxides of boron, oxygen.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

6.2. Environmental precautions

See Section 12 for additional ecological information.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Do not let this chemical enter the environment.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

Do not breathe dust. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood.

7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep at temperatures below 40°C.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s):

Component	Austria	Denmark	Switzerland	Poland	Norway
Sodium perborate tetrahydrate				STEL: 8 mg/m ³ 15 minutach TWA: 4 mg/m ³ 8 godzinach	
Sodium perborate				STEL: 8 mg/m ³ 15 minutach TWA: 4 mg/m ³ 8 godzinach	

Component	Latvia	Lithuania	Luxembourg	Malta	Romania
Sodium perborate tetrahydrate	TWA: 1 mg/m ³				

Component	Russia	Slovak Republic	Slovenia	Sweden	Turkey
Sodium perborate	MAC: 1 mg/m ³				

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) See table for values

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral Dermal Inhalation				101 mg/kg 2 mg/m ³

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)
Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	> 480 minutes	0.11 mm	EN 374	(minimum requirement)

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Recommended Filter type: Particulates filter conforming to EN 143
Recommended half mask:- Particle filtering: EN149:2001
 When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls No information available.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	White	
Physical State	Powder Solid	
Odor	Odorless	
Odor Threshold	No data available	
pH	10.4	1% aq.solution
Melting Point/Range	60 °C / 140 °F	
Softening Point	No data available	
Boiling Point/Range	No information available	
Flash Point	No information available	
Evaporation Rate	Not applicable	
Flammability (solid,gas)	No information available	
Explosion Limits	No data available	
Vapor Pressure	1.3 mbar @ 30 °C	
Vapor Density	Not applicable	Solid
Specific Gravity / Density	1.731 g/cm3	
Bulk Density	No data available	
Water Solubility	21.5 g/l (18°C)	

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Autoignition Temperature		
Decomposition Temperature	150 - 400 °C	
Viscosity	Not applicable	Solid
Explosive Properties	No information available	
Oxidizing Properties	No information available	

9.2. Other information

Molecular Formula	B Na O3 . 4 H2 O
Molecular Weight	153.86

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity None known, based on information available

10.2. Chemical stability Stable under normal conditions

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.
Hazardous Reactions No information available.

10.4. Conditions to avoid Incompatible products.

10.5. Incompatible materials Powdered metal salts. Strong reducing agents. Combustible material.

10.6. Hazardous decomposition products Oxides of boron. oxygen.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;
Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Category 4

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium perborate tetrahydrate	LD50 = 2567 mg/kg (Rat)		1.165 mg/l (rabbit; 4 h)

(b) skin corrosion/irritation; Based on available data, the classification criteria are not met

(c) serious eye damage/irritation; Category 1

(d) respiratory or skin sensitization;
Respiratory Based on available data, the classification criteria are not met
Skin Based on available data, the classification criteria are not met

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

	There are no known carcinogenic chemicals in this product
(g) reproductive toxicity; Reproductive Effects	Category 1B Possible risk of impaired fertility. Possible risk of harm to the unborn child.
(h) STOT-single exposure;	Category 3
(i) STOT-repeated exposure; Target Organs	Based on available data, the classification criteria are not met No information available.
(j) aspiration hazard;	Not applicable Solid
Other Adverse Effects	See actual entry in RTECS for complete information
Symptoms / effects, both acute and delayed	No information available

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecotoxicity effects Do not empty into drains.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Sodium perborate tetrahydrate	51 mg/l (Brachydanio rerio; 96 h)	11 mg/l (Daphnia magna; 48 h)	3.3 mg/l (Selenastrum capricornutum; 72 h)	500 mg/l (activated sludge; 14 d) (Respiration inhibition)

12.2. Persistence and degradability
Persistence Expected to be biodegradable
Degradability Soluble in water, Persistence is unlikely, based on information available.
Not relevant for inorganic substances.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

12.4. Mobility in soil The product is water soluble, and may spread in water systems Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB assessment Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

12.6. Other adverse effects
Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused Products Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not dispose of waste into sewer.

SECTION 14: TRANSPORT INFORMATION

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

IMDG/IMO Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

ADR Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

IATA Not regulated

- 14.1. UN number**
- 14.2. UN proper shipping name**
- 14.3. Transport hazard class(es)**
- 14.4. Packing group**

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

X = listed

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Sodium perborate tetrahydrate	-	-		-	-	-	X	X	X	X	-
Sodium perborate	231-556-4	-		X	X	-	X	X	X	X	X

Component	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Sodium perborate tetrahydrate			Toxic for reproduction (Article 57 c)

National Regulations

Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
Sodium perborate tetrahydrate	WGK 1	
Sodium perborate	WGK 1	

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.
 Take note of Dir 94/33/EC on the protection of young people at work
 Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work
 Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SAFETY DATA SHEET

Sodium perborate tetrahydrate

Revision Date 06-Oct-2015

SECTION 16: OTHER INFORMATION

Full Text of H-/EUH-Statements Referred to Under Section 3

H272 - May intensify fire; oxidizer
H302 - Harmful if swallowed
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H360Df - May damage the unborn child. Suspected of damaging fertility

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

PNEC - Predicted No Effect Concentration

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - Volatile Organic Compounds

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Creation Date 20-Jun-2011

Revision Date 06-Oct-2015

Revision Summary Update to Format.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet