

Safety Data Sheet according to Regulation (EC) 1907/2006 (REACH)

9/22/2016 Revision date: Supercedes: 10/9/2014

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifiers:

Purox* S grains, pure grade sodium benzoate Product trade name:

Company product number: **SBPURS**

REACH registration number: 01-2119460683-35-0000 Substance name: Sodium benzoate Substance identification number: EC 208-534-8

Other means of identification: Sodium benzoic acid; Benzoic acid sodium salt

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

Uses: Additive. Auxiliary in polymerization processes. Industrial applications. Food

and pharmaceutical applications. See Annex for covered uses.

Uses advised against: None identified

1.3. Details of the supplier of the safety data sheet:

Manufacturer/Supplier:

EMERALD KALAMA CHEMICAL B.V. Havennr. 4322 - Montrealweg 15 3197 KH Rotterdam-Botlek - THE NETHERLANDS Telephone: +31 88 888 0512/-0509 - FAX: +31 20 794 8466

purox.info@emeraldmaterials.com

For further information about this SDS: Email: product.compliance@emeraldmaterials.com

1.4. Emergency telephone number:

ChemTel (24 hours): 1-800-255-3924 (USA); +001-813-248-0585 (outside USA).

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Product classification according to Regulation (EC) 1272/2008 (CLP) as amended:

Eye Irritation, category 2, H319

2.2. Label elements:

Product labeling according to Regulation (EC) 1272/2008 (CLP) as amended:

Hazard pictogram(s):



Signal word:

Warning

Hazard statements:

H319 Causes serious eye irritation.

Precautionary statements:

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.

P337+P313 If eye irritation persists: Get medical advice/attention. Supplemental information: No Additional Information

Precautionary statements are listed according to the United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Annex III and ECHA Guidance on Labelling and Packaging. Regulations in individual countries/regions may determine which statements are required on the product label. See product label forspecifics.

2.3. Other hazards:

PBT/vPvB criteria: This product does not meet the PBT and vPvB classification criteria.

Other hazards: May form combustible dust concentrations in air.

See Section 11 for toxicological information.

SECTION 3: Composition/information on ingredients

3.1. Substance:

CAS-No.Chemical NameWeight%ClassificationH Statements0000532-32-1Sodium benzoate95-100Eye Irrit. 2H319

 CAS-No.
 Chemical Name
 Weight%
 REACH Registration No.
 EC Number

 0000532-32-1
 Sodium benzoate
 95-100
 01-2119460683-35-0000
 208-534-8

See Section 16 for full text of H (Hazard) statements (EC 1272/2008).

Notes: Sodium benzoate: 100%.

Amounts specified are typical and do not represent a specification. Remaining components are proprietary, non-hazardous, and/or present at amounts below reportable limits.

SECTION 4: First aid measures

4.1. Description of first aid measures:

General: If irritation or other symptoms occur or persist from any route of exposure, remove the affected individual from the area: see a physician/get medical attention.

Eye contact: Immediately flush eyes with plenty of clean water for an extended time, not less than fifteen (15) minutes. Flush longer if there is any indication of residual chemical in the eye. Ensure adequate flushing of the eyes by separating the eyelids with fingers and roll eyes in a circular motion. If eye irritation persists: Get medical advice/attention.

Skin contact: Wash the affected area thoroughly with plenty of soap and water. Get medical attention if symptoms occur.

Inhalation: If affected, remove to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse out the mouth with water. Get medical attention immediately.

Protection of first aid responders: Wear proper personal protective clothing and equipment.

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

Coughing, Irritation. Preexisting sensitization, skin and/or respiratory disorders or diseases may be aggravated. See section 11 for additional information.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media:

Suitable: Use water spray, dry chemical, or foam. Carbon dioxide may be ineffective on larger fires due to a lack of cooling capacity which may result in reignition.

Unsuitable: Avoid hose streams or any method which will create dust clouds.

5.2. Special hazards arising from substance or mixture:

Unusual fire/explosion hazards: Concentrated dust/air combinations may produce explosive conditions. As with all organic dusts, fine particles suspended in air in critical proportions and in the presence of an ignition source may ignite and/or explode. Dust may be sensitive to ignition by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or

other significant heat sources. As a precaution, implement standard safety measures for handling finely divided organic powders. See Section 7 for suggested measures.

Hazardous combustion products: Irritating or toxic substances may be emitted upon burning, combustion or decomposition. See section 10 (10.6 Hazardous decomposition products) for additional information.

5.3. Advice for firefighters:

Water spray (fog) can be used to absorb heat and to cool and protect surrounding exposed material. Avoid hose streams or any method which will create dust clouds. Wear self-contained breathing apparatus (SCBA) equipped with a full facepiece and operated in a pressure-demand mode (or other positive pressure mode) and approved protective clothing. Personnel without suitable respiratory protection must leave the area to prevent significant exposure to hazardous gases from combustion, burning or decomposition. In an enclosed or poorly ventilated area, wear SCBA during cleanup immediately after a fire as well as during the attack phase of firefighting operations.

See section 9 for additional information.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures:

See Section 8 for recommendations on the use of personal protective equipment. If spilled in an enclosed area, ventilate. Avoid raising powdered material due to explosion hazard. Use spark-proof and explosion-proof equipment. If inhalation of dust cannot be avoided, wear an approved particulate respirator. Personal Protective Equipment must be worn.

6.2. Environmental precautions:

Do not flush product into public sewer, water systems or surface waters.

6.3. Methods and material for containment and cleaning up:

Contain spill. Wear proper personal protective clothing and equipment. Using care to avoid dust generation, vacuum or sweep into a closed container for reuse or disposal. Use approved industrial vacuum cleaner for removal. Avoid causing dust. Place into labeled, closed container; store in safe location to await disposal. Change contaminated clothing and launder before reuse.

6.4. References to other sections:

See Section 8 for recommendations on the use of personal protection and Section 13 for waste disposal.

SECTION 7: Handling and storage

7.1. Precautions for safe handling:

As with any chemical product, use good laboratory/workplace procedures. Wash thoroughly after handling this product. Always wash up before eating, smoking or using the facilities. Use under well-ventilated conditions. Avoid eye and skin contact. Avoid drinking, tasting, swallowing or ingesting this product. Avoid routine inhalation of dust of any kind. Exercise care when emptying containers, sweeping, mixing or doing other tasks which can create dust. Wash contaminated clothing before reuse. Provide eyewash fountains and safety showers in the work area. As a precaution to control dust explosion potential, implement the following safety measures: Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). In general, dust of organic materials is a static charge generator which may be ignited by electrostatic discharge, electrical arcs, sparks, welding torches, cigarettes, open flame, or other significant heat sources. Use spark-proof tools and equipment. Bond, ground and properly vent conveyors, dust control devices and other transfer equipment. Prohibit flow of polymer, powder or dust through non-conductive ducts, vacuum hoses or pipes, etc.; only use grounded, electrically conductive transfer lines when pneumatically conveying product. Good housekeeping and controlling of dusts are necessary for safe handling of product. Prevent accumulation of dust (e.g., well-ventilated conditions, promptly vacuuming spills, cleaning overhead horizontal surfaces, etc.).

7.2. Conditions for safe storage, including any incompatibilities:

Store cool and dry, under well-ventilated conditions. Store this material away from incompatible substances (see section 10). Do not store in open, unlabeled or mislabeled containers. Keep container closed when not in use. Do not reuse empty container without commercial cleaning or reconditioning. Product will absorb water vapor (hygroscopic).

7.3. Specific end use(s):

Further information concerning special risk management measures: see annex of this safety data sheet (exposure scenarios).

SECTION 8: Exposure controls / personal protection

8.1. Control parameters:

Occupational exposure limits (OEL):

EU OELV EU IOELV ACGIH - TWA/Ceiling ACGIH - STEL **Chemical Name** N/E

N/E N/E Sodium benzoate

Chemical Name UK WEL Ireland OEL Sodium benzoate N/E

N/E=Not established (no exposure limits established for the listed substances for listed country/region/organization).

Derived No Effect Levels (DNELs) - Workers:

Chemical Name Inhalation-Acute (local) Inhalation-Acute Inhalation-Long Term Inhalation-Long Term

(systemic) (local) (systemic) Sodium benzoate N/E 0.1 mg/m3 3 mg/m3 **Dermal-Acute (systemic) Chemical Name** Dermal-Acute (local) **Dermal-Long Term Dermal-Long Term** (local) (systemic)

Sodium benzoate N/E 62.5 mg/kg bw/day N/E

Predicted No Effect Concentration (PNECs):

Chemical Name Freshwater Marine water Intermittent releases <u>Soil</u>

Sodium benzoate 0.13 mg/L 0.013 mg/L 305 ug/L 0.276 mg/kg soil dw **Chemical Name** Sediment (freshwater) Sediment (marine) STP Oral

Sodium benzoate 1.76 mg/kg sediment dw 0.176 mg/kg sediment 10 mg/L 300 mg/kg food

N/E=Not established; N/A=Not applicable (not required); bw=body weight; dw=dry weight; ww=wet weight.

8.2. Exposure controls:

Appropriate engineering controls: Always provide effective general and, when necessary, local exhaust ventilation to draw dust away from workers to prevent routine inhalation. Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS. Eliminate ignition sources (e.g., sparks, static buildup, excessive heat, etc.). Prohibit flow of powder or dust through non-conductive ducts, vacuum hoses, or pipes, etc. Bond, ground, and properly vent conveyors, dust control devices and other transfer equipment.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety glasses or goggles required.

Hand protection: Avoid skin contact when mixing or handling the material by wearing impervious and chemical resistant gloves. In case of prolonged immersion or frequently repeated contact, gloves with breakthrough times greater than 240 minutes (protection class 5 or greater) are recommended. For brief contact or splash applications, gloves with breakthrough times of 10 minutes or greater are recommended (protection class 1 or greater). Suggested materials for protective gloves: Butyl rubber, Nitrile rubber, Neoprene, PVC, Viton. The protective gloves to be used must comply with the specifications of the EC directive 89/686/EEC and the resultant standard EN 374. Suitability and durability of a glove is dependent on usage (e.g. frequency and duration of contact, other chemicals which may be handled, chemical resistance of glove material and dexterity). Always seek advice of the glove supplier as to the most suitable glove material. Skin and body protection: Use good laboratory/workplace procedures including personal protective clothing: labcoat, safety glasses and protective gloves.

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment. If inhalation of dust cannot be avoided, wear an approved particulate respirator.

Further information: Eyewash fountains and safety showers are recommended in the work area.

Environmental exposure controls: See Sections 6 and 12.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties:

8 (10% aqueous solution) Form: Solid (pellet) :Ha

White 1.5 @ 20°C Appearance: Relative density:

Odour: Odorless Partition coefficient(n-1.88 (Benzoic acid)

octanol/water):

Odour threshold: Not Available % Volatile by weight: Not Available Solubility in water: 556 g/L VOC: Not Available

Evaporation rate: Not Available Boiling point °C: Decomposes before boiling Vapour pressure: Negligible @ 20°C Boiling point °F: Decomposes before boiling

Vapour density:Not AvailableFlash point:Not ApplicableViscosity:Not AvailableAutoignition temperature:Not Available

Melting point/Freezing point: 436°C (817°F)

Flammability (solid, gas): Not flammable (may form

combustible dust-air mixtures)

Oxidising properties: Not oxidizing Flammability or explosive LFL/LEL: Not Available

limits:

Explosive properties: Not explosive UFL/UEL: Not Available

Decomposition temperature: 450-475 °C (842-887 °F) **Surface tension:** 72.9 mN/m @ 20°C (1 g/L)

9.2. Other information:

Amounts specified are typical and do not represent a specification.

Dust combustibility data: Particle size variation is considered a critical factor in regards to dust explosion hazard information. The Minimum Ignition Energy (MIE) of a dust/air mix depends on the particle size the water content and the temperature of the dust. The finer and the dryer the dust the lower the MIE.

- Minimum ignition energy (pellet): 10000 mJ

- Dust explosion class: 1

Results applicable as follows: sample particle size <75 um, 0.2% moisture content. Sample tested is not typical of product.:

- Minimum ignition energy (dust cloud): 25-50 mJ
- Minimum ignition energy (particle size <63 um): 30-100 mJ
- Minimum explosive concentration: 50-60 g/m3
- Maximum rate of pressure rise: 465 bars/sec @ 500 g/m3
- Maximum pressure of explosion: 7.4 bars-gauge @ 500 g/m3
- Deflagration Index, Kst (estimate): 126 bar-m/sec
- Volume resistivity (ambient relative humidity): >10(14) ohm-m
- Volume resistivity (low relative humidity): >10(14) ohm-m
- Charge decay (ambient relative humidity): 4.8 hours
- Charge decay (low relative humidity): 6.8 hours

SECTION 10: Stability and reactivity

10.1. Reactivity:

None known.

10.2. Chemical stability:

This product is stable.

10.3. Possibility of hazardous reactions:

Hazardous polymerization will not occur.

10.4. Conditions to avoid:

Excessive heat and ignition sources. Contact with water or moist air. Avoid static discharge. Avoid dust formation.

10.5. Incompatible materials:

Avoid strong acids and oxidizing agents. Avoid contact with iron salts.

10.6. Hazardous decomposition products:

Carbon dioxide and carbon monoxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects:

Information on likely routes of exposure:

General: Caution must be exercised through the prudent use of protective equipment and handling procedures to minimize

exposure.

Eyes: Causes serious eye irritation.

Skin: Repeated or prolonged skin contact may cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Inhalation: Dust inhalation may cause respiratory irritation.

Ingestion: May be harmful if swallowed. Ingestion may cause irritation.

Acute toxicity information: Not classified (based on available data, the classification criteria are not met).

Chemical NameInhalation LC50SpeciesOral LD50SpeciesDermal LD50SpeciesSodium benzoate>12.2 mg/L (4 hours, based on benzoic acid)Rat/ adult>2000 mg/kg (weight of evidence)Rat/ adult>2000 mg/kg (weight of evidence)>2000 mg/kg (based on benzoic acid)Rabbit/ adult

Skin corrosion/irritation: Not classified (based on available data, the classification criteria are not met).

 Chemical Name
 Skin irritation
 Species

 Sodium benzoate
 Non-irritant (OECD 404)
 Rabbit/ adult

Serious eye damage/irritation: Causes serious eye irritation - Category 2.

 Chemical Name
 Eye irritation
 Species

 Sodium benzoate
 Irritant (OECD 405)
 Rabbit/adult

Respiratory or skin sensitization: Not classified (based on available data, the classification criteria are not met). READ-ACROSS (BENZOIC ACID): Not a skin sensitizer in the mouse local lymph node assay or Buehler guinea pig test.

<u>Chemical Name</u> <u>Skin sensitisation</u> <u>Species</u>

Sodium benzoate Non-sensitizer (read-across) Guinea pig and Mouse local lymph node assay

Carcinogenicity: Not classified (based on available data, the classification criteria are not met). SODIUM BENZOATE: In a 2-year animal feeding study (2% in food), sodium benzoate was not carcinogenic.

Germ cell mutagenicity: Not classified (based on available data, the classification criteria are not met). SODIUM BENZOATE: No mutagenic activity was observed in the in-vitro Ames tests. Positive mutagenic effects have been observed in most in-vitro chromosome abberation testing. Sodium benzoate showed no genotoxicity during in-vivo testing.

Reproductive toxicity: Not classified (based on available data, the classification criteria are not met). BENZOIC ACID AND BENZOATE SALTS: Reproductive toxicity (benzoic acid), 4-generation oral study in rats: NOAEL (no-observed adverse- effect-level) 500 mg/kg bw/day. Developmental toxicity (sodium benzoate), oral, rats and mice: NOAEL of >=175 mg/kg bw/day can be established for developmental effects.

Specific target organ toxicity (STOT) - single exposure: Not classified (based on available data, the classification criteria are not met).

Specific target organ toxicity (STOT) - repeated exposure: Not classified (based on available data, the classification criteria are not met). SODIUM BENZOATE: Repeated dose oral toxicity studies for salts of benzoic acids: NOAEL (no-observed-adverse-effect-level) 1000 mg/kg bw/day. READ-ACROSS (BENZOIC ACID): Repeated dose toxicity study, inhalation: NOAEC (No-Observed-Adverse-Effect-Concentration), inhalation, rat: 250 mg/m3 (systemic effects); 25 mg/m3 (local). Local effects including nasal redness, pulmonary fibrosis and inflammatory cell infitrates in the lungs were observed at lowest dose of 25 mg/m3 and can be attributed to the irritant properties and to the physico-chemical properties of fine low-solubility particles of benzoic acid. NOAEL (No-Observed-Adverse-Effect-Level), dermal, rabbit - 2500 mg/kg bw/day. BENZOIC ACID AND BENZOATE SALTS: At higher doses (oral) increased mortality, reduced weight gain, convulsions (central nervous system effects), liver and kidney effects were observed.

Aspiration hazard: Not classified (technical impossibility to obtain the data).

Other toxicity information: No additional information available.

SECTION 12: Ecological information

12.1. Toxicity:

 Chemical Name
 Fish 96 hour LC50
 Fish 96 hour LC50
 Fish 96 hour LC50
 Fish Chronic NOEC

 Sodium benzoate
 484 mg/L
 >100 mg/L
 10 mg/L (144 hours)

<u>Chemical Name</u> <u>Invertebrates 48 hour EC50</u> <u>Invertebrates 24 hour EC50</u> <u>Invertebrates Chronic NOEC</u>

Sodium benzoate >100 mg/L (96 hours) N/E N/E

 Chemical Name
 Algae 96 hour EC50
 Algae 72 hour EC50
 Algae Chronic NOEC

 Sodium benzoate
 N/E
 >30.5 mg/L
 EC10=6.5 mg/L (72 hours)

12.2. Persistence and degradability:

 Chemical Name
 Biodegradation

 Sodium benzoate
 Readily biodegradable

12.3. Bioaccumulative potential:

 Chemical Name
 Bioconcentration Factor (BCF)
 Log Kow

 Sodium benzoate
 N/E
 1.88 (Benzoic acid)

12.4. Mobility in soil:

Chemical Name Mobility in soil (Koc/Kow)

Sodium benzoate N/E

12.5. Results of PBT and vPvB assessment:

This product does not meet the PBT and vPvB classification criteria.

12.6. Other adverse effects:

No additional information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Dispose of unused contents (incineration or landfill) in accordance with national and local regulations. Dispose of container in accordance with national and local regulations. Ensure the use of properly authorized waste management companies, where appropriate.

See Section 8 for recommendations on the use of personal protective equipment.

SECTION 14: Transport information

The information below is provided to assist in documentation. It may supplement the information on the package. The package in your possession may carry a different version of the label depending on the date of manufacture. Depending on inner packaging quantities and packaging instructions, it may be subject to specific regulatory exceptions.

14.1. UN number: N/A

14.2. UN proper shipping name:

Not regulated - See Bill of Lading for Details

14.3. Transport hazard class(es):

U.S. DOT hazard class: N/A
Canada TDG hazard class: N/A
Europe ADR/RID hazard class: N/A
IMDG Code (ocean) hazard class: N/A

ICAO/IATA (air) hazard class: N/A

A "N/A" listing for the hazard class indicates the product is not regulated for transport by that regulation.

14.4. Packing group: N/A

14.5. Environmental hazards:

Marine pollutant: Not Applicable

Hazardous substance (USA): Not Applicable

14.6. Special precautions for user:

Not Applicable

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code:

Chemical NameCategorySodium benzoateCategory Z

SECTION 15: Regulatory information

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

Europe REACH (EC) 1907/2006: Applicable components are registered, exempt or otherwise compliant. REACh is only relevant to substances either manufactured or imported into the EU. Emerald Performance Materials has met its obligations under the REACh regulation. REACh information regarding this product is provided for informational purposes only. Each Legal Entity may have differing REACh obligations, depending on their place in the supply chain. For material manufactured outside of the EU, the importer of record must understand and meet their specific obligations under the regulation.

EU Authorizations and/or restrictions on use: Not Applicable

Other EU information: No Additional Information National regulations: No Additional Information

Chemical inventories:

Regulation	<u>Status</u>
Australian Inventory of Chemical Substances (AICS):	Υ
Canadian Domestic Substances List (DSL):	Υ
Canadian Non-Domestic Substances List (NDSL):	N
China Inventory of Existing Chemical Substances (IECSC):	Υ
European Inventory of Existing Chemical Substances (EINECS):	Υ
European List of Notified Chemical Substances (ELINCS):	N
Japan Existing and New Chemical Substances (ENCS):	Υ
Japan Industrial Safety and Health Law (ISHL):	Υ
Korean Existing and Evaluated Chemical Substances (KECL):	Υ
New Zealand Inventory of Chemicals (NZIoC):	Υ
Philippines Inventory of Chemicals and Chemical Substances (PICCS):	Υ
Taiwan Inventory of Existing Chemicals:	Υ
U.S. Toxic Substances Control Act (TSCA):	Υ

A "Y" listing indicates all intentionally added components are either listed or are otherwise compliant with the regulation. A "N" listing indicates that for one or more components: 1) there is no listing on the public inventory; 2) no information is available; or 3) the component has not been reviewed. A "Y" for New Zealand may mean that a qualified group standard may exist for the components in this product.

15.2. Chemical safety assessment:

A chemical safety assessment has been carried out for the substance or mixture.

SECTION 16: Other information

Hazard (H) Statements in the Composition section (Section 3):

H319 Causes serious eye irritation.

Reason for revision: Changes in Section(s): 1

Evaulation method for classification of mixtures: Not Applicable (substance)

Legend:

*: Trademark owned by Emerald Performance Materials, LLC. ACGIH: American Conference of Governmental Industrial Hygienists EU OELV: European Union Occupational Exposure Limit Value EU IOELV: European Union Indicative Occupational Exposure Limit Value N/A: Not Applicable

N/E: None Established

STEL: Short Term Exposure Limit

TWA: Time Weighted Average (exposure for 8-hour workday)

Users Responsibility/Disclaimer of Liability:

The information set forth herein is based on our current knowledge, and is intended to describe the product solely with respect to health, safety and the environment. As such, it must not be interpreted as a guarantee of any specific property of the product. As a result, the customer shall be solely responsible for deciding whether said information is suitable and beneficial.

Safety Data Sheet Preparer: Product Compliance Department Emerald Performance Materials, LLC 2020 Front Street, Suite 100 Cuyahoga Falls, Ohio 44221 United States