# SAFETY DATA SHEET

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*Document Rev 2.1.0*

**ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878, and United States Regulation 29 CFR 1910**

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

**1.1** Product identifier

| | |
|---|---|
| Product Name | Safetysorb |
| Product Code | SCM |

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

| | |
|---|---|
| Identified Use(s) | Gas-phase air filtration |
| Uses Advised Against | Do not use for applications other than those specified. |

**1.3** Details of the supplier of the safety data sheet

| | |
|---|---|
| Company Identification | Pure Air Filtration, LLC<br>6050 Peachtree Parkway<br>Suite 240-187<br>Atlanta, GA 30092 USA<br><br>PureAir Filtration BV<br>Tijnmuiden 79<br>1046 AK Amsterdam<br>The Netherlands |
| Telephone | +1 (678) 935-1431 ; Office Hours are Monday through Friday, 8:00AM to 5:00PM Eastern Standard Time |
| Fax | +1 (678) 935-0648 |
| E-mail (competent person) | ajameson@pureairfiltration.com |

**1.4** Emergency telephone number

| | |
|---|---|
| Emergency Phone No. | CHEMTREC (international): +1 703-741-5970 (24 hour line)<br>The line is available 24 hours; in the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department. |
| Language(s) spoken: | English |

## 2 SECTION 2: HAZARDS IDENTIFICATION

**2.1** Classification of the substance or mixture
GHS-US and Regulation (EC) No. 1272/2008 (CLP) and most important hazards

Irritant, Category 2
Eye Irritant, Category 2
Xi

Mixture itself in solid form causes little irritation, but if crushed or handled extensively, dust may evolve which can cause irritation to eyes and respiratory tract. Adding water can cause irritation to skin.

If in a confined space, use appropriate safety precautions, as activated carbon can remove oxygen and cause hazard for workers in small space. Before entering space, check state and national guidelines for work in confined area. The following medical conditions may be aggravated by exposure to dust of product: asthma, chronic lung disease, and skin rashes.

**2.2** Label elements

| | |
|---|---|
| | According to Regulation (EC) No. 1272/2008 (CLP) |
| Product Name | Safetysorb |
| Contains: | Aluminum Oxide, Sodium Thiosulfate |

Hazard Pictogram(s)-

| | |
|---|---|
| Signal Word(s) | Warning |
| Hazard Statement(s) | Eye Irrit. 2; H319<br>Skin Irrit. 2 H315<br>Resp Irrit H335 |
| Precautionary Statement(s) | P235 + P410 - Keep cool. Protect from sunlight<br>P260 - Do not breathe dust<br>P264 - Wash face, hands and any exposed skin thoroughly after handling<br>P332+P313- if skin irritation occurs, call doctor<br>P280: Wear protective gloves and eye/face protection.<br>P302+P361+P352: IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water.<br>P305+P351+P338+ P337+P313: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P362: Take off contaminated clothing and wash before reuse |
| Supplemental information | Not applicable. |

**2.3** Other hazards — The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

*NOTE: The Hazard Classification listed in this section refers to the chemical at a pure concentration. It has been determined that the remaining ingredient(s) of this component/product are NOT CLASSIFIED AS HAZARDOUS CHEMICALS due to their physical and/or chemical nature and/or concentration in solution, in accordance with California and Federal OSHA regulations (Federal Register 29CFR 1910.1200), and The Chemicals (Hazard Information and Packaging for Supply) Regulations (European Community).

## 3 SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2

| Chemical identity of the substance | %W/W | CAS No. | EC No. | REACH Registration No. | Hazard Statement(s) |
|---|---|---|---|---|---|
| Aluminum oxide ($Al_2O_3$) | 80-85% | 1344-28-1 | 215-691-6 | 01-2119529248-35-XXXX | Eye Irrit. 2; H319+H320<br>Skin Irrit. 2; H315<br>Acute Tox 4; H302<br>Resp Irrit; H335, STOT SE 3 |
| Sodium Thiosulfate ($Na_2S_2O_3$) | 15-20% | 7772-98-7 | 231-867-5 | 01-2119531537-38-XXXX | Eye Irrit. 2; H319+H320<br>Skin Irrit. 2; H315<br>Resp Irrit; H335, STOT SE 3<br>Acute Tox 4; H302 |

## 4 SECTION 4: FIRST AID MEASURES

**4.1** Description of first aid measures

| | |
|---|---|
| Self-protection of the first aider | Use personal protective equipment as required. Wear suitable protective clothing and gloves. Avoid contact with skin, eyes or clothing. Do not breathe dust. Do not ingest. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. If swallowed then seek immediate medical assistance. |
| Inhalation | IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a |

| | | |
|---|---|---|
| | | position comfortable for breathing. Immediately call a POISON CENTER/doctor. |
| | Skin Contact | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Gently wash with plenty of soap and water. Call a POISON CENTER/doctor. |
| | Eye Contact | IF IN EYES: Flush eyes with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. After rinsing affected eyes must be seen by an ophthalmologist Call a POISON CENTER/doctor. |
| | Ingestion | IF SWALLOWED: Do NOT induce vomiting. Do not give anything by mouth to an unconscious person. Immediately call a POISON CENTER/doctor. |
| **4.2** | Most important symptoms and effects, both acute and delayed | Can cause skin and eye irritation. Treat symptomatically. |
| **4.3** | Indication of any immediate medical attention and special treatment needed | |
| | Notes to a physician: | IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist. |

*Note: For full text of H phrases see section 16

## 5 SECTION 5: FIREFIGHTING MEASURES

| | | |
|---|---|---|
| **5.1** | Extinguishing media | |
| | Suitable Extinguishing media | As appropriate for surrounding fire. Extinguish with carbon dioxide, dry chemical, foam or water spray. Alcohol resistant foams (ATC type) are preferred. |
| | Unsuitable extinguishing media | Do not use water jet. Direct water jet may spread the fire. |
| **5.2** | Special hazards arising from the substance or mixture | May form explosive dust/air mixtures. May decompose if heated. Not flammable but will support combustion. |

| | | |
|---|---|---|
| | Oxidizing | May intensify fire; some substances alone are oxidizers, while the mixture itself is not classified as an oxidizer. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. In case of fire use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide. |
| | Advice for fire-fighters | Fight fire with normal precautions from a reasonable distance. Fire fighters should Wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire. Do not allow run-off from firefighting to enter drains or water courses. All contaminated wastewater must be processed in an industrial or municipal wastewater treatment plant. |

## 6 SECTION 6: ACCIDENTAL RELEASE

| | | |
|---|---|---|
| **6.1** | Personal precautions, protective equipment and emergency procedures | Ensure operatives are trained to minimize exposures. Ensure suitable personal protection during removal of spillages. Use personal protective equipment as required. See Section: 8. Wear suitable protective clothing, gloves and eye/face protection. Avoid all contact. Avoid dust formation. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. Do not breathe dust. Do not ingest. If swallowed then seek immediate medical assistance. In case of leakage, eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| | Small spillages: | Clean up spill with measures mentioned above. No extra measures necessary. |
| | Oxidizing | May intensify fire; some ingredients are oxidizers, even though mixture as a whole is not considered oxidizer. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep away from clothing and other combustible materials. In case of fire use water spray or fog, alcohol resistant foam, dry chemical or carbon dioxide. |
| **6.2** | Environmental precautions | Collect spillage. Inform authorities if spill cannot be contained. |
| **6.3** | Methods and material for containment and cleaning up | Do not mix with combustible material. Provided it is safe to do so, isolate the source of the leak. Dry sweeping is not recommended. If necessary, light water spray will reduce dust for dry sweeping, but over-wetting may produce very slippery walking surfaces. Transfer to a container for disposal. Use vacuum equipment for collecting spilt materials, where practicable. Dispose of this material and its container as hazardous waste. |
| | Small spillages: | Sweep up spilled substance and remove to safe place. Avoid dust generation. Damp down to avoid dust generation. |
| **6.4** | Reference to other sections | See Also Section: 8, 13 |

## 7 SECTION 7: HANDLING AND STORAGE

| | | |
|---|---|---|
| **7.1** | Precautions for safe handling | Ensure operatives are trained to minimize exposures. Use personal protective equipment as required. See Section: 8. Wear suitable protective clothing, gloves and eye/face protection. Avoid all contact. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. |
| | Oxidizing | Do not store near combustible materials. Do not mix with combustible material. May intensify fire; some ingredients are oxidizers, even though mixture as a whole is not considered oxidizer. Take precautionary measures against static discharge. |
| **7.2** | Conditions for safe storage, including any incompatibilities | Keep container tightly closed. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Control dust formation. |
| | Storage temperature | Keep only in the original container/package in a cool well-ventilated place. Should be stored inside, away from rainwater, etc. |
| | Incompatible materials | Protect from moisture. Keep away from strong oxidizing substances. |
| **7.3** | Specific end use(s) | See Section: 1.2 |

## 8 SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

| | | |
|---|---|---|
| **8.1** | Control parameters | |
| **8.1.1** | Related to Substance- Aluminum Oxide | OSHA PEL (TWA) (15 mg/m3 total dust; 5 mg/m3 respirable fraction) |
| **8.1.2** | Related to Substance- Potassium Hydroxide | ACGIH Ceiling (2mg/m3) |
| **8.1.3** | Occupational Exposure Limits | Ireland HSA recommends the following limits for aluminum oxide dusts: 10 mg/m³ (8hr TWA) total inhalable dust; 4 mg/m³ (8hr TWA) total respirable dust |

Dust, or Particulates, Substance Not Otherwise Specified:

Austria MAK: 10 mg/m³, STEL 2x30 min, Inhalable dust 5 mg/m³, TWA, Inhalable dust
Belgium: 10 mg/m³, TWA, Inhalable 3 mg/m³ TWA, Respirable
Canada (Saskatchewan): 10 mg/m³, TWA, Inhalable 3 mg/m³ TWA, Respirable
China: 8 mg/m³, TWA 10 mg/m³, STEL
France: 10 mg/m³, TWA Inhalable dust 5 mg/m³, TWA Respirable dust
Germany - TRGS 900: 10 mg/m³, TWA, Inhalable 3 mg/m³, Respirable fraction Hong Kong: 10 mg/m³, TWA
Ireland: 10 mg/m³, TWA, Total inhalable 4 mg/m³, TWA, Respirable Italy: 10 mg/m³, TWA, Inhalable 3 mg/m³, TWA, Respirable
Japan: 3 mg/m³ TWA, Respirable Product code: CI4 Product name: NORITÒ CI4 Revision date: 29-Jul-2016
Malaysia: 10 mg/m³, TWA, Inhalable 3 mg/m³, TWA, Respirable
The Netherlands: 3.5 mg/m³, Inhalable
Spain: 10 mg/m³, VLA, Inhalable 3 mg/m³, VLA, Respirable
Sweden: 10 mg/m³, NGV, Total inhalable 5 mg/m³, NGV, Respirable
United Kingdom - WEL: 10 mg/m³, TWA, Total Inhalable dust 4 mg/m³, TWA, Respirable dust US ACGIH - PNOS: 10 mg/m³, TWA, Inhalable 3 mg/m³, TWA, Respirable US OSHA - PEL: 15 mg/m³, TWA, Total dust 5 mg/m³, TWA, Respirable

| | | |
|---|---|---|
| 8.1.0 | Biological limit value | None Known |
| **8.1.1** | PNECs and DNELs | Not applicable. |
| **8.2** | Exposure controls | |
| **8.2.1** | Appropriate engineering controls | Ensure operatives are trained to minimize exposures. Ensure adequate ventilation. In case of inadequate ventilation wear respiratory protection. Good hygiene practices and housekeeping measures. A washing facility/water for eye and skin cleaning purposes should be present. Preferably use engineering controls to keep exposures below the OEL or DNEL. |

**8.2.2** Individual protection measures, such as personal protective equipment (PPE)

Use personal protective equipment as required. Wear suitable protective clothing, gloves, and eye/face protection. Keep good industrial hygiene. Do not breathe dust. Avoid all contact. Wash hands before breaks and after work. Keep work clothes separately. Take off contaminated clothing and wash before reuse. Do not eat, drink or smoke at the workplace.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

| | |
|---|---|
| Eye/ face protection  | Use eye protection according to EN 166, designed to protect against dusts.<br>Small Quantities: Not normally required |
| Skin protection  | Hand protection:<br>Wear gloves to EN374 to protect against skin effects from powders.<br>Breakthrough time of the glove material: refer to the information provided by the gloves' producer.<br><br>Skin protection: Wear suitable coveralls to prevent exposure to the skin. |
| Respiratory protection  | Respiratory protective device with a particles filter or Dust Mask: NIOSH N95 |
| **8.2.3** Environmental Exposure Controls | Prevent release to the environment. |

## 9 SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1** Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | Solid white spherical pellets |

| | |
|---|---|
| Color | white |
| Odor | No odor |
| Melting point/freezing point | Not applicable. |
| Flammability | Not flammable |
| Lower and upper explosion limit | Not explosive |
| Flash point | Not applicable. |
| Auto-ignition temperature | Not applicable. |
| Decomposition Temperature | Not applicable. |
| pH | Not applicable. |
| Kinematic viscosity | Not applicable. |
| Solubility | Partly soluble in water. |
| Partition coefficient: n-octanol/water (log value) | Not applicable. |
| Vapor pressure | Not applicable. |
| Density and/or relative density | ~ 50 lbs/ft3 , 800 kg/m3 |
| Relative vapor density | Not applicable. |
| Particle characteristics | Median Particle Diameter 4mm |

**9.2** Other information

Oxidizing properties: The final product is considered to have no oxidizing properties and it should be classified as "not oxidizing" and "Not Division 5.1" following UN Handbook. A test according to UN Handbook 34.4.1 and GHS was performed and confirms this statement.

## 10 SECTION 10: STABILITY AND REACTIVITY

| | | |
|---|---|---|
| **10.1** | Reactivity | Stable under normal conditions |
| **10.2** | Chemical stability | Stable under normal conditions |
| **10.3** | Possibility of hazardous reactions | May occur with strong acids or oxidizing agents |
| **10.4** | Conditions to avoid | Protect from moisture and damage. |
| **10.5** | Incompatible materials | Strong acids. Strong reducing and oxidizing agents. |
| **10.6** | Hazardous decomposition product(s) | Hazardous combustion products: Potassium Oxide, Manganese, oxides of manganese |

## 11 SECTION 11: TOXICOLOGICAL INFORMATION

**11.1** Information on hazard classes as defined in Regulation (EC) No 1272/2008

| | |
|---|---|
| Acute toxicity - Ingestion | Mixture: Based on available data, the classification criteria are not met. Alumina- Acute Toxicity Estimate Mixture Calculation: LD50 > 5,000 mg/kg bw/day, Acute Tox 4; H302 |
| Acute toxicity - Inhalation | Mixture: Based on available data, the classification criteria are not met. Alumina Acute Toxicity Estimate Mixture Calculation: LC50 > 20 ml/l |
| Acute toxicity - Skin Contact | Mixture: Based on available data, the classification criteria are not met. Alumina Acute Toxicity Estimate Mixture Calculation: LD50 > 2000 mg/kg bw/day |
| Skin corrosion/irritation | Mixture: Skin Irr 2 |
| Serious eye damage/irritation | Mixture: Eye. Irr 2: Causes eye irritation. |
| Respiratory or skin sensitization | Rep Irrit: H335, STOT SE3 |
| Germ cell mutagenicity | Mixture: Based on available data, the classification criteria are not met. |
| Carcinogenicity | Mixture: Based on available data, the classification criteria are not met. |
| Reproductive toxicity | Mixture: Based on available data, the classification criteria are not met. |
| STOT - single exposure | Mixture: Based on available data, the classification criteria are not met. |
| STOT - repeated exposure | Mixture: Based on available data, the classification criteria are not met. |
| Aspiration hazard | Mixture: Not relevant – solid mixture |

**11.2** Information on other hazards

| | | |
|---|---|---|
| **11.2.1** | Endocrine disrupting properties | No substances identified as having endocrine-disrupting properties. |
| **11.2.2** | Other information | No data available |

## 12 SECTION 12: ECOLOGICAL INFORMATION

**12.1** Toxicity: No data, but mixture is only partially (very small percentage) soluble in water
No experimental data available.

| | | | |
|---|---|---|---|
| **12.2** | Persistence and degradability | | No data for the mixture as a whole. |
| | | Potassium permanganate | Testing can be waived because the substance is an inorganic compound |
| **12.3** | Bioaccumulative potential | | No data for the mixture as a whole. |
| | | Potassium permanganate | Testing can be waived because the substance is an inorganic compound |
| **12.4** | Mobility in soil | | No data for the mixture as a whole. |
| | | Potassium permanganate | Testing can be waived because the substance is an inorganic compound |
| **12.5** | Results of PBT and vPvB assessment | | The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| **12.6** | Endocrine disrupting properties | | No substances identified as having endocrine-disrupting properties. |
| **12.7** | Other adverse effects | | None Known |

## 13 SECTION 13: DISPOSAL CONSIDERATIONS

**13.1** Waste treatment methods — Dispose of wastes in an approved waste disposal facility, in accordance with local laws

*Note that this is for the unused product.

Used product is a nonhazardous salt.

## 14 SECTION 14: TRANSPORT INFORMATION

| | | ADR/RID | IMDG | IATA/ICAO | US DOT 49 CFR 172.101 |
|---|---|---|---|---|---|
| **14.1** | UN number or ID number | Not Applicable | Not Applicable | Not Applicable | Not Applicable |
| **14.2** | UN proper shipping name | | | | |
| 14.3 | Transport hazard class(es) | | | | |
| **14.4** | Packing group | | | | |
| **14.5** | Environmental hazards | | | | |
| **14.6** | Special precautions for user | | | | |
| **14.7** | Maritime transport in bulk according to IMO \instruments | | | | |
| **14.8** | Additional Information | | | | |

## 15 SECTION 15: REGULATORY INFORMATION

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

| | | |
|---|---|---|
| **15.1.1** | EU regulations | |
| | Authorizations and/or Restrictions On Use | Not restricted for the intended use(s) of the product. |
| | CoRAP Substance Evaluation | Substance identified for evaluation in 2017 evaluating Member State has concluded that no additional information is required |
| | Listed on EEC Inventory EINECS | |
| **15.1.2** | National regulations | |
| | Germany | Possible Water Hazard, unclassified |
| | United States | National Inventory TSCA- All components are listed under the TSCA 8 b inventory as active or exempted. No components are listed under TSCA 12 b<br>RA Section 304 CERCLA<br>RA Section 311/312 Hazards |
| | USA State Regulations | Air Act Section 112b; Cal. Proposition 65- no known cancer-causing ingredients |
| **15.2** | Chemical Safety Assessment | A chemical safety assessment is not required under REACH. |

## 16 SECTION 16: OTHER INFORMATION

**Full list of H Statements:**

Eye Irrit. 2; H319+H320
Skin Irrit. 2; H315
Resp Irrit; H335, STOT SE 3
Acute Tox 4; H302

The following sections contain revisions or new statements: Updated substance / mixture classification. Updated version and date. New SDS Regulation 2020/878 format, all sections have been updated to include new information. Please review SDS with care.

References: Existing Safety Data Sheet (SDS) Substance with harmonized classification and labelling according to Regulation (EC) No. 1272/2008, Annex VI. Existing ECHA registration for Potassium permanganate (CAS No. 7722-64-7)

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 2020/878

LEGEND

| | |
|---|---|
| ADR | ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road CLP Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures |
| CoRAP | Community Rolling Action Plan (CoRAP) |
| DNEL | Derived no effect level |
| EC50 | Half maximal effective concentration |
| IATA | IATA: International Air Transport Association |
| ICAO | ICAO: International Civil Aviation Organization |
| IMDG | IMDG: International Maritime Dangerous Goods |
| LC50 | Lethal concentration at which 50% of the population is killed |
| LD50 | Lethal dose at which 50% of the population is killed |
| LTEL | Long term exposure limit |
| OEL | Occupational exposure limits |
| PBT | PBT: Persistent, Bioaccumulative and Toxic |
| PNEC | Predicted No Effect Concentration |
| REACH | Registration, Evaluation, Authorization and Restriction of Chemicals |
| RID | RID: Regulations concerning the international railway transport of dangerous goods STEL Short term exposure limit |
| vPvB | vPvB: very Persistent and very Bioaccumulatve |

Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Disclaimers

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