

# SAFETY DATA SHEET

Version: 2.0 Date: March 1, 2022

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

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

<b>1.1 Product identifier</b>	
Product Name	PureAir 4, PureAir 8, PureAir 12
Product Code	PA4-8-12
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	
Identified Use(s)	Gas-phase air filtration
Uses Advised Against	Do not use for applications other than those specified.
<b>1.3 Details of the supplier of the safety data sheet</b>	
Company Identification	Pure Air Filtration, LLC 6050 Peachtree Parkway Suite 240-187 Atlanta, GA 30092 USA
	PureAir Filtration BV Tijnmuiden 79 1046 AK Amsterdam 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
<b>1.4 Emergency telephone number</b>	
Emergency Phone No.	CHEMTREC (international): +1 703-741-5970 (24-hour line) 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

## SECTION 2: HAZARDS IDENTIFICATION

<b>2.1 Classification of the substance or mixture</b>	
Regulation (EC) No. 1272/2008 (CLP)	Ox. Sol. 2; H272 Skin Corr. 1C; H314 Eye Dam. 1; H318 Repr. 2; H361d Aquatic Acute 1; H400 Aquatic Chronic 1; H410
<b>2.2 Label elements</b>	
Product Name	According to Regulation (EC) No. 1272/2008 (CLP) PureAir 4, PureAir 8, PureAir 12
Contains:	Aluminum oxide, water, potassium permanganate proprietary blend

Hazard Pictogram(s)



Signal Word(s)

Danger

Hazard Statement(s)

H272: May intensify fire; oxidizer.  
 H314: Causes severe skin burns and eye damage.  
 H361d: Suspected of damaging the unborn child.  
 H400: Very toxic to aquatic life.  
 H410: Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P220: Keep away from clothing and other combustible materials.  
 P273: Avoid release to the environment.  
 P280: Wear protective gloves and eye/face protection.  
 P303+P361+P353: IF ON SKIN or hair: Take off immediately all contaminated clothing. Rinse skin with water.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310: Immediately call a doctor.

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).

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures**

Chemical Name and Synonyms: Permanganate Impregnated Alumina  
 Formula: Potassium permanganate impregnant (4%-12%) on aluminum oxide (66%-70%)  
 Proprietary ingredient: less than 10%  
 Chemical Family: Inorganic mixture

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Chemical identity of the substance	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Aluminum oxide	66 - 70	1344-28-1	215-691-6	01-2119529248-35-xxxx	Not classified

Potassium permanganate	4 - 12	7722-64-7	231-760-3	01-2119480139-34-xxx	Ox. Sol. 2; H272 Acute Tox. 4; H302 Skin Corr. 1C; H314 Eye Dam. 1; H318 STOT RE 2; H373 Repr. 2; H361d Aquatic Acute 1; H400 M-factor: 10 Aquatic Chronic 1; H410 M-factor: 10
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Note: For full text of H phrases see section 16.

## 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

Causes severe skin burns and eye damage. Suspected of damaging the unborn child.

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

Treat symptomatically.

Notes to a physician:

IF IN EYES: Obtain prompt consultation, preferably from an ophthalmologist.

Extinguishing media

## SECTION 5: FIREFIGHTING MEASURES

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.

### 5.1 Special hazards arising from the substance or mixture

May form explosive dust/air mixtures. May decompose if heated. Not flammable but dust may support combustion.

Oxidizer Characteristics

May intensify fire, mild 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.

### 5.2 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. Do not breathe fumes. 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 that incorporates both primary and secondary treatments.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Small spillages:  
Oxidizer Characteristics

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.

Avoid exposure. Clean up spill immediately.

May intensify fire, mild 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. Avoid release to the environment. Do not allow to enter drains, sewers or watercourses.

### 6.3 Methods and material for containment and cleaning up

Small spillages:

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.

Sweep up spilled substance and remove to safe place. Do not use saw dust. Avoid dust generation.

Damp down to avoid dust generation.

### 6.4 Reference to other sections

See Also Section: 8, 13

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Oxidizer Characteristics

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.

Do not store near combustible materials. Do not mix with combustible material. May intensify fire, mild oxidizer. Take precautionary measures against static discharge.

### 7.2 Conditions for safe storage, including any incompatibilities

Storage temperature

Keep container tightly closed. Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Control dust formation.

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

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Occupational Exposure Limits




Ireland HSA (Code of Practice) recommends the following limits for dusts: 10 mg/m<sup>3</sup> (8hr TWA) total inhalable dust; 4 mg/m<sup>3</sup> (8hr TWA) total respirable dust

SUBSTANCE	CAS No.	LTCL (8 hr. TWA ppm)	LTCL (8 hr. TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Aluminum oxides	1344-28-1		10 (1) 4 (2)			(1) (2)

(1) Inhalable Dust

(2) Respirable Dust

Source: Health and Safety Authority, Code of Practice, 2020

8.1.2	<b>Biological limit value</b>	None known
8.1.3	<b>PNECs and DNELs</b>	Not applicable
8.2	<b>Exposure controls</b>	
8.2.1	<b>Appropriate engineering controls</b>	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	<b>Individual protection measures, such as personal protective equipment (PPE)</b>	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. Small Quantities: Not normally required
		
	Skin protection	<b>Hand protection:</b> Wear gloves to EN374 to protect against skin effects from powders. Breakthrough time of the glove material: refer to the information provided by the gloves' producer.
		
	Respiratory protection	<b>Skin protection:</b> Wear suitable coveralls to prevent exposure to the skin.
		Respiratory protective device with a particles filter
	Thermal hazards	Exothermic reaction with: Reducing agent. Wear a Heat Protective Suit.
8.2.3	<b>Environmental Exposure Controls</b>	Prevent release to the environment.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1	<b>Information on basic physical and chemical properties</b>	
	Physical state	Solid Pellets
	Colour	Purple
	Odor	No odor
	Melting point/freezing point	Not applicable.
	Boiling point or initial boiling point and boiling range	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	No data available
Relative vapor density	Not applicable.
Particle characteristics	Median Particle Diameter 4mm

**9.2 Other information**

Oxidizing properties	Oxidizing solid
Bulk density	720 – 960 kg/m <sup>3</sup> (45 – 60 lb./ft <sup>3</sup> )

**SECTION 10: STABILITY AND REACTIVITY**

<b>10.1 Reactivity</b>	Stable under normal conditions
<b>10.2 Chemical stability</b>	Stable under normal conditions
<b>10.3 Possibility of hazardous reactions</b>	May intensify fire, oxidizer
<b>10.4 Conditions to avoid</b>	Protect from moisture and damage.
<b>10.5 Incompatible materials</b>	Acids. Strong reducing and oxidizing agents. Combustible materials.
<b>10.6 Hazardous decomposition product(s)</b>	Potassium Oxide, Manganese, oxides of manganese

**SECTION 11: TOXICOLOGICAL INFORMATION**

<b>11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008</b>	
<b>Acute toxicity - Ingestion</b>	Mixture: Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: LD50 > 2000 mg/kg bw/day Harmonized Classification Acute Tox. 4; H302: Harmful if swallowed.
<b>Acute toxicity - Inhalation</b>	Mixture: Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: LC50 > 20 ml/l
<b>Acute toxicity - Skin Contact</b>	Mixture: Based on available data, the classification criteria are not met. Acute Toxicity Estimate Mixture Calculation: LD50 > 2000 mg/kg bw/day
<b>Skin corrosion/irritation</b>	Mixture: Skin. Corr. 1C; H314: Causes severe skin burns and eye damage.
<b>Serious eye damage/irritation</b>	Mixture: Skin. Corr. 1C; H314: Causes severe skin burns and eye damage. Corrosive to skin. (rabbit) (EU Method B.4)
<b>Respiratory or skin sensitization</b>	Mixture: Eye. Dam. 1; H318: Causes serious eye damage.
<b>Germ cell mutagenicity</b>	Mixture: Can be waived on basis of: Skin Corr. 1C
<b>Carcinogenicity</b>	Mixture: Based on available data, the classification criteria are not met.
<b>Reproductive toxicity</b>	Mixture: Based on available data, the classification criteria are not met.
<b>STOT - single exposure</b>	Mixture: Based on available data, the classification criteria are not met.
<b>STOT - repeated exposure</b>	Mixture: Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Mixture: Not relevant – solid mixture
<b>11.2 Information on other hazards</b>	
<b>11.2.1 Endocrine disrupting properties</b>	No substances identified as having endocrine-disrupting properties.
<b>11.2.2 Other information</b>	No data available

**SECTION 12: ECOLOGICAL INFORMATION**

<b>12.1 Toxicity</b>	Mixture: Aquatic Acute 1; H400: Very toxic to aquatic life. Aquatic Chronic 1; H410: Very toxic to aquatic life with long lasting effects. Estimated LC50 (Mixture): Short Term (acute) > 0.1 – ≤ 1 mg/L Long term (chronic) > 0.1 – ≤ 1 mg/L
<b>Potassium permanganate</b>	Aquatic Acute 1; H400: Very toxic to aquatic life. Harmonized Classification M-factor: 10 Short Term (acute): LC50 (96h) 0.47 mg/L (Fish) (EU Method C.1)

EC50(48h) 0.06 mg/L (Daphnia magna) (EU Method C.2)  
 EbC50: (72h) 0.43 mg/L (Algae)(EU Method C.3)  
 Aquatic Chronic 1; H410: Very toxic to aquatic life with long lasting effects.  
 Harmonized Classification

M-factor: 10

No experimental data available.

**12.2 Persistence and degradability**

No data for the mixture as a whole.

**12.3 Bioaccumulative potential**

Potassium permanganate Testing can be waived because the substance is an inorganic compound

No data for the mixture as a whole.

**12.4 Mobility in soil**

Potassium permanganate Testing can be waived because the substance is an inorganic compound

No data for the mixture as a whole.

**12.5 Results of PBT and vPvB assessment**

Potassium permanganate Testing can be waived because the substance is an inorganic compound

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

### SECTION 13: DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**

\*Hazardous waste according to Directive 2008/98/EC (waste framework directive). Dispose of wastes in an approved waste disposal facility.

\*Note that this is for the unused product. Used product is a nonhazardous salt. See MSDS for used product.

### SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO	US DOT 49 CFR 172.101
<b>14.1 UN number or ID number</b>	3085	3085	3085	3085
<b>14.2 UN proper shipping name</b>	OXIDIZING SOLID, CORROSIVE, N.O.S. (Potassium permanganate)	OXIDIZING SOLID, CORROSIVE, N.O.S. (Potassium permanganate)	OXIDIZING SOLID, CORROSIVE, N.O.S. (Potassium permanganate)	OXIDIZING SOLID, CORROSIVE, N.O.S.
<b>14.3 Transport hazard class(es)</b>	5.1 (8)	5.1 (8)	5.1 (8)	5.1 (8)
<b>14.4 Packing group</b>	II	II	II	II
<b>14.5 Environmental hazards</b>	Yes.	Yes.	Yes.	Yes
<b>14.6 Special precautions for user</b>	None Known			
<b>14.7 Maritime transport in bulk according to IMO instruments</b>		No transport as bulk according to IBC Code.		
<b>14.8 Additional Information</b>	Not applicable			

### 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  
 CoRAP Substance Evaluation

Not restricted for the intended use(s) of the product.  
 Substance identified for evaluation in 2017 evaluating Member State has concluded that no additional information is required

**15.1.2 National regulations**

Germany  
 United States

Water hazard class: 3  
 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  
 RA Section 304 CERCLA  
 Potassium Permanganate reportable quantity 100 lbs. (45.4 kg)  
 RA Section 311/312 Hazards



USA State Regulations

Potassium permanganate : fire hazard, immediate (acute) health hazard, delayed health hazard

RA Section 313 Toxic Release inventory

OSHA 29 CFR 19.10

Air Act Section 112b

Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, California)- this product cannot expose you to products know to California to cause cancer or reproductive harm

**15.2 Chemical Safety Assessment**

A chemical safety assessment is not required under REACH.

**SECTION 16: OTHER INFORMATION**

**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

Classification of the substance or mixture according to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Ox. Sol. 2: H272	Expert judgement
Skin Corr. 1C: H314	Calculation method
Eye Dam. 1: H318	Calculation method
Repr. 2: H361d	Calculation method
Aquatic Acute 1: H400	Summation Calculation
Aquatic Chronic 1: H410	Summation Calculation

**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
LTCL	Long term exposure limit
OEL	Occupational exposure limits
PBT	PBT: Persistent, Bio accumulative 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 Bio accumulative

**Hazard classification / Classification code:**

Ox. Sol. 2; Oxidizing solid, Category 2  
 Acute Tox. 4; Acute Toxicity, Category 4  
 Skin Corr. 1C; Skin corrosion/irritation, Category 1C  
 Eye Dam. 1; Eye damage, category 1  
 Repr. 2; Reproductive toxicity, Category 2  
 STOT RE 2; Specific target organ toxicity — repeated exposure, Category 2

**Hazard Statement(s)**

H272: May intensify fire; oxidizer.  
 H302: Harmful if swallowed.  
 H314: Causes severe skin burns and eye damage.  
 H318: Causes serious eye damage.  
 H361d: Suspected of damaging the unborn child.  
 H373: May cause damage to organs through prolonged or repeated exposure.



Aquatic Acute 1; Hazardous to the aquatic environment, acute, Category 1 H400: Very toxic to aquatic life.

Aquatic Chronic 1; Hazardous to the aquatic environment, Chronic , Category 1 H410: Very toxic to aquatic life with long lasting effects.

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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