1. Identification of the material and supplier

Product Name:	Purafil SP Media
Other Name(s):	Purafil (ECO-1037) Purafil Scrubber (98415105-4) Purafil Charcoal Scrubber (98415105-6) SP Media SP Odoroxidant
Recommended Use:	Dry granular medium for use in gas-phase air filtration.
Restrictions on Use:	Only use for the intended purpose. The product is not intended to remove dangerous particulates or biological agents. The product is not intended to purify water.
Supplier:	ECOTECH PTY LTD
ABN:	32 005 752 081
Street Address:	1492 Ferntree Gully Road, Knoxfield, Victoria 3180, AUSTRALIA
Telephone Number:	+61 3 9730 7800
Emergency Number:	13 11 26 Poisons Information Centre 24x7 (Within Australia)

2. Hazard(s) Identification

2.1. Classification of the substance or mixture

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

Based on available information, not classified as hazardous according to criteria of Safe Work Australia; NON-HAZARDOUS SUBSTANCE.

2.2. Label elements

Signal Word	**WARNING**
Pictogram:	 GHS07: Harmful
Hazard Statements:	H315: Causes skin irritation H319: Causes serious eye irritation
Precautionary Statements:	P264: Wash hands thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P302 + P352: IF ON SKIN: Wash with plenty of soap and 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. P332 + P313: If skin irritation occurs: Get medical advice/attention. P337 + P313: If eye irritation persists: Get medical advice/attention. P362: Take off contaminated clothing and wash before reuse.

2.3. Other Hazards

May cause respiratory irritation.
Special danger of slipping by leaking/spilling product.
The components in this mixture do not meet the criteria for classification as PBT or vPvB.

3. Composition and Information on Ingredients

3.1. Substances/Mixtures

Components	**CAS Number**	**Proportion**
Aluminium oxide (Al_2O_3)	1344-28-1	45 - 60%
Sodium bicarbonate ($NaHCO_3$)	144-55-8	10 - 20%
Sodium permanganate ($NaMnO_4$)	10101-50-5	8 - 16%

4. First Aid Measures

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

4.1. Description of first aid measures

General Information	First aider: Pay attention to self-protection!
After Inhalation	Provide fresh air. In case of respiratory tract irritation, consult medical attention.
After contact with skin	After contact with skin, wash immediately with water and soap. Change contaminated clothing. If the product contacts the skin with water, it may leave a stain of insoluble products on the skin. This stain will be washed away/rubbed off over a period of time (hours to days). If skin irritation or rash occurs: Get medical advice/attention.
After contact with eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult an ophthalmologist.
After ingestion	If swallowed, rinse mouth with water (only if the person is conscious). Call a physician immediately.

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

Following Inhalation	Coughing, asthmatic complaints. Repeated and prolonged contact may aggravate asthma and dermatitis.
After skin contact	Irritation and reddening. Skin rashes.
Following eye contact:	Irritation and reddening. Causes serious eye irritation.
After ingestion:	May cause irritation of the gastrointestinal mucosa, abdominal pain, vomiting and diarrhea.

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

Treat symptomatically.

5. Fire Fighting Measures

5.1. Suitable extinguishing equipment

Suitable extinguishing media:	Coordinate firefighting measures to the fire surroundings.
Unsuitable extinguishing media	None known

5.2. Specific hazards arising from the chemical

The material is not combustible. When involved in a fire, the sodium permanganate component may release corrosive fumes.

Contains an oxidizing substance (sodium permanganate). The 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.

Explosive dust-air mixtures may form.

5.3. Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing.

5.4. Additional information

Suppress gases/vapors/mists with water spray jet.
Contaminated firefighting water must be collected separately. Do not allow to enter into surface water or drains.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Avoid generation of dust. Do not breathe dust. Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

6.2. Environmental precautions

Do not allow to enter into surface water or drains. If contacted by water, the sodium permanganate may leach out and the water may turn pink to purple in colour. Sodium bisulfite will clarify the water, but will give off sulfur dioxide vapors and should only be used in well ventilated areas.

6.3. Methods and material for containment and cleaning up

Pick up dry. Take up mechanically. Avoid generation of dust. Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

Protection measures in accordance with section 8.
Disposal in accordance with section 13.

7. Handling and Storage

7.1. Precautions for safe handling

Avoid generation of dust. Use air conveying (vacuum) for bulk removal. If manual handling is used for transfer (from vessel, slingbags, boxes, or pails), use mechanical ventilation or other measures to remove airborne dust.

7.2. Conditions for safe storage, including any incompatibilities

Store only in original container. Keep container tightly closed in a cool, well-ventilated place. : Protect from water and exposure to contaminated air (gaseous, particulate, and aerosol contaminated), otherwise the product may be rendered useless.

Recommended packaging materials:
- Corrugated double wall boxes with plastic liners.
- Injection molded polystyrene pails and lids including a neoprene seal.

7.3. Specific end use(s)

Dry granular medium for use in gas-phase air filtration.

8. Exposure Controls and Personal Protection

8.1. Control parameters

Exposure Standards
Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls	If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe dust.
Protective and hygiene measures	Remove contaminated, saturated clothing immediately. After work, wash hands and face. When using, do not eat or drink.
Eye and face protection	Tightly fitting safety glasses with side shields
Hand protection	Protect skin by using skin protective cream. Wear suitable gloves. Suitable material: NR (natural rubber (India rubber, caoutchouc), natural latex). Thickness of glove material: >= 0.1 mm Penetration time (maximum wearing period): >480 Min. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
Skin protection	Full cover clothing covering arms and legs.
Respiratory protection	In exceptional situations (e.g., accidental release of substances, occupational exposure limit is exceeded) the wearing of respiratory protection is required. Observe the wear time limits. Dust mask: P2 (AS/NZS 1716)

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Solid, roughly spherical pellets or granules,1.6 – 6.4 mm in diameter Pink to purple (violet)
Odour	No specific odour
Odour threshold	No data available
pH	~ 6.3
Melting point / freezing point	No data available
Initial boiling point and boiling range	No data available

Flash Point	No data available
Evaporation rate (Ether = 1)	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Oxidizing properties	The 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.
Vapour pressure (Pa)	No data available
Vapour Density	No data available
Specific Gravity	~ 0.8000 g/cc, 800 kg/m3
Solubility in Water	Partially soluble
Solubility in other solvents	Soluble in concentrated acids, alkalis
Partition coefficient n-octanol/water (Log Kow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity (cSt)	No data available

9.2. Other Information

No other relevant information.

10. Stability and Reactivity

Reactivity	No dangerous reactivity under normal conditions
Chemical stability	The product is stable under regular conditions.
Possibility of hazardous reactions	May occur in contact with: acids, strong oxidizing agents.
Conditions to avoid	Liquid water, moisture. Heat sources, open flames and other ignition sources.
Incompatible materials	Acids, strong oxidizing agents.
Hazardous decomposition products	Sodium permanganate may liberate corrosive fumes if involved in a fire. Carbon monoxide and carbon dioxide may be generated during combustion of this material.

11. Toxicological Information

11.1. Information on toxicological effects

Aluminium Oxide (1344-28-1)	
LD_{50} oral rat	> 5,000 mg/kg

Sodium Permanganate (10101-50-5)	
ATE (oral)	500.000 mg/kg bodyweight

Sodium bicarbonate (144-55-8)	
LD_{50} oral rat	4,220 mg/kg
ATE (oral)	4,220.000 mg/kg bodyweight

Classification	**Hazard description**
Acute toxicity	Based on available data, the classification criteria are not met
Irritation and corrosivity	Causes serious eye irritation Causes skin irritation. The classification was made based on available test data. The test item is considered non-corrosive (Corrositex-Test following OECD Guideline 435). The in vitro experiment (OECD Guideline 439 - EPISKIN model) reveals, that the product is an irritant (GHS: Skin Irrit. 2). For skin irritant substances it can be assumed that they also cause eye irritation (GHS: Eye Irrit. 2A).
Sensitizing effects	Based on available data, the classification criteria are not met.
STOT-single exposure	Based on available data, the classification criteria are not met.
Severe effects after repeated or prolonged exposure	Based on available data, the classification criteria are not met.
Carcinogenic/mutagenic/toxic effects for reproduction	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.

12. Ecological Information

12.1. Toxicity

Classification	Hazard description
Acute Daphnia toxicity	EC_{50}: <1,0 mg/L (Exposure time 48h; Species: Daphnia magna) OECD Guideline 202
Algae toxicity	ErC_{50}: 10-100 mg/L (Exposure time 72h; Species: Desmodesmus subspicatus) OECD Guideline 201

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
The components in this mixture do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects
No data available.

13. Disposal Considerations

13.1. Waste treatment methods

Advice on disposal	Waste disposal should be in accordance with existing environmental control regulations. Spent media that has removed toxic chemicals should be examined for specific hazards. Spilled product may be recovered for use if it has not come in contact with liquid, changed colour, or been exposed to significant amounts of gaseous contaminants.
Disposal of residues/unused products	Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to an approved waste disposal plant. Avoid release to the environment.
Disposal of packaging	Dispose in a safe manner in accordance with local/national regulations.

14. Transport Information

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by Road and Rail; NON-DANGEROUS GOODS.

UN Number	None
Proper Shipping Name	None
Transport hazard class	None
Packing Group	None-
Environmental hazards for Transport Purposes	None
Special precautions for user	None
Additional Information	None
HAZCHEM or Emergency Action Code	None

15. Regulatory Information

15.1. Australian regulations

Aluminium Oxide (1344-28-1)
Listed on the Australian Inventory of Chemical Substances (AICS).

Sodium Permanganate (10101-50-5)
Listed on the Australian Inventory of Chemical Substances (AICS).

Sodium bicarbonate (144-55-8)
Listed on the Australian Inventory of Chemical Substances (AICS).

15.2. International regulations

15.2.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.
Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Aluminium Oxide (1344-28-1)	
Listed on United States SARA Section 313	
SARA Section 313 - Emission Reporting	1.0 % (fibrous forms)

15.2.2. Canada

Aluminium Oxide (1344-28-1)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

Sodium permanganate (10101-50-5)	
Listed on the Canadian NDSL (Non-Domestic Substances List)	
WHMIS Classification	Class C - Oxidizing Material Class E - Corrosive Material

Sodium bicarbonate (144-55-8)	
Listed on the Canadian DSL (Domestic Substances List)	
WHMIS Classification	Uncontrolled product according to WHMIS classification criteria

15.2.3. EU regulations

Aluminium Oxide (1344-28-1)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Sodium Permanganate (10101-50-5)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Sodium bicarbonate (144-55-8)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.2.4. National regulations

Aluminium Oxide (1344-28-1)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Listed on the Canadian IDL (Ingredient Disclosure List)

Sodium Permanganate (10101-50-5)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on the Japanese ISHL (Industrial Safety and Health Law) Listed on the Korean ECL (Existing Chemicals List) Listed on NZIoC (New Zealand Inventory of Chemicals) Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances) Japanese Pollutant Release and Transfer Register Law (PRTR Law) Listed on INSQ (Mexican national Inventory of Chemical Substances)

Sodium bicarbonate (144-55-8)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)

Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

15.2.5. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm.

16. Other Information

1. Purafil SP Media Safety Data Sheet (SS ID: PUR-001 Rev 1.02 - 1-JUN-2015)

This safety data sheet has been prepared by Ecotech.

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since Ecotech cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

REVIEW DATE: 29-MAY-2019