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

1.1 Product identifier

Product Trade Name	**PERMEATOR™**
Other means of identification	Not applicable

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

Relevant identified uses	Soil conditioner
Uses advised against	None Known

1.3 Details of the supplier of the safety data sheet

Manufacturer
Oro Agri, Inc.
2788 S Maple Ave.
Fresno, CA 93725
United States
Telephone: +1(559) 442-4996
Email: SDS-NA@oroagri.com:

Distributor
ROVENSA ANZ PTY LTD
Level 10, 12 Creek Street
Brisbane City, QLD 4000
Phone: +(61) 412550250

1.4 Emergency telephone number

Incident Spill, Leak, Fire, Exposure or Accident
Call CHEMTREC Day or Night
Within Australia: +(61)-290372994
Outside Australia: +1 (703) 741-5970.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to the model Work Health and Safety (WHS) Regulations.

2.2 Label elements

Labelling (AU GHS)

Hazard statement	Hazard class	Category
H226	Flammable liquid.	3
H319	Serious eye damage/eye irritation.	2A

- Signal word **WARNING**

- Pictograms

Hazard statements

Flammable liquid and vapour. Causes serious eye irritation.

Precautionary statements - prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take action to prevent static discharges. Use only outdoors or in a well ventilated area. Wash thoroughly after handling. Wear protective gloves/protective clothing/eye protection/face protection.

Code	Precautionary statements - response.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
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.
P370+P378	In case of fire: Use water fog, foam, dry chemical powder, carbon dioxide to extinguish.

Code	Precautionary statements - storage
P403+P235	Store in a well-ventilated place. Keep cool.

Code	Precautionary statements - disposal
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

None known.

2.4 Supplemental information

None.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture

Alcohol Ethoxylate (CAS 84133-50-6) 15 - 25%
Orange Oil (CAS 8028-48-6) 5 - 15%

Proprietary mixture* 60 - 80%

*Components, CAS numbers and/or concentrations not listed are either non-hazardous, below reporting limits or have been withheld as trade secrets.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing and wash it before reuse. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness, place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Following eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. In all cases of doubt, or when symptoms persist, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. In cases of doubt, or when symptoms persist, seek medical advice.

4.3 Indication of any immediate medical attention and special treatment needed

In case of burns and frostbite: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO_2).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2 Special hazards arising from the substance or mixture

In case of insufficient ventilation and/or in use, product may form flammable/explosive vapour air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. In case of fire and/or explosion do not breathe fumes. Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

5.3 Advice for firefighters

In case of fire and/or explosion, do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated water separately. Fight fire with normal precautions from a reasonable distance.

Specific methods

Protective clothing against liquid and gaseous chemicals, including liquid aerosols and solid particles. Wear self-contained breathing apparatus.

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

5.4 General fire hazards

Flammable liquid and vapour.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

6.2 Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

6.3 Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid contact with eyes. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of substance	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Source
Australia	Proprietary component	WES		5					WES
Australia	Proprietary component	WES		10					WES
Australia	Proprietary component	WES	150	474					WES
Australia	Proprietary component	WES	1,000	1,880					WES

Notation

Ceiling-C	Ceiling value is a limit value above which exposure should not occur
STEL	Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

8.2 Exposure controls

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Provide eyewash station. Provide easy access to water supply and eye wash facilities.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear safety glasses with side shields (or goggles). Wear a face shield if there is a risk of splashing.

Skin protection

- Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

- Other protection measures

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Green (Various)
Odour	Citrus
Odour threshold	Not determined
Melting point/freezing point	Not determined
Boiling point or initial boiling point and boiling range	Not determined
Evaporation rate	Not determined
Flammability (gas,solids)	Not relevant(fluid)
Lower and upper explosion limit	Not determined
Flash point	40.7°C (105.2°F) - (Pensky-Martens closed cup)
Auto-ignition temperature	This information is not available
Decomposition temperature	Not relevant
pH (value)	6.8 - 7.8
Kinematic viscosity	Not determined
Dynamic viscosity	80 - 150 mPa·s
Water solubility	Complete
Partition coefficient: n-octanol/water (log KOW)	This information is not available
Vapour pressure	Not determined
Density	0.98 - 1.15 g/mL
Relative density	Not determined
Relative vapour density	Not determined
Particle characteristics	Not relevant(liquid)

9.2	Other information	There is no additional information

SECTION 10: Stability and reactivity

10.1 Reactivity

The product is stable and non-reactive under normal conditions of use, storage and transport.

If heated

Risk of ignition

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lightning/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

10.5 Incompatible materials

Strong oxidizing agents.

10.6 Hazardous decomposition products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Information on likely routes of exposure

Inhalation

Prolonged inhalation may be harmful.

Skin contact

No adverse effects due to skin contact are expected.

Eye contact

Causes serious eye irritation.

Ingestion

May causes discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Severe eye irritation. Symptoms may include stringing, tearing, redness, swelling, and blurred vision.

Acute toxicity

Not expected to be acutely toxic.

Product: PERMEATOR (CAS Mixture)				
Exposure route	**Endpoint**	**Value**	**Species**	**Method**
Oral	LD50	>2,000 $^{mg}/_{kg}$	Rat	OECD 423
Inhalation: dust/mist	LC50	>3.69 $^{mg}/_{l}$/4h	Rat	OECD 403
Dermal	LD50	>2,000 $^{mg}/_{kg}$	Rat	OECD 402

Skin corrosion/irritation

Prolonged skin contact may cause temporary irritation.

Skin contact

PERMEATOR
OECD 404
Result: Non-irritant
Species: Rabbit.

Serious eye damage/eye irritation

Causes serious eye irritation.

Eye contact

PERMEATOR
OECD 405
Result: Mild irritant
Species: Rabbit.

Respiratory sensitization

Not a respiratory sensitizer.

Skin sensitisation

This product not expected to cause skin sensitization.

Sensitization

PERMEATOR
OECD 406
Result: Non-sensitizing
Species: Rabbit.

Germ cell mutagenicity

No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

This product is not considered to be a carcinogen by IARC, NTP, or OSHA.

-IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Not listed.

-NTP Report on Carcinogens

Not Listed.

-OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not Listed.

Reproductive toxicity

This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity (STOT)

- Specific target organ toxicity - single exposure

Not classified.

- Specific target organ toxicity - repeated exposure

Not classified.

Aspiration hazard

Not an aspiration hazard.

Chronic effects

Prolonged inhalation may be harmful.

SECTION 12: Ecological information

12.1 Toxicity

This product is not classified for environmental hazardous under the model Work Health and Safety (WHS) Regulations. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

12.2 Persistence and degradability

No data is available on the degradability of this product.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Data are not available.

12.7 Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1 Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local / regional / national / international regulations.

Local disposal regulations

Dispose in accordance with all applicable regulations.

Hazardous waste code

The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information

14.1 DOT

Not regulated as dangerous goods. See additional information in this section.

14.2 IATA

Not regulated as dangerous goods. See additional information in this section.

14.3 IMDG

Not regulated as dangerous goods. See additional information in this section.

14.4 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

14.5 Additional Information

Test results from Sustained Combustion testing (L.2 of Part 3 section 32 of UN Recommendations on the Transport of Dangerous Goods, Manual of Tests and Criteria) indicate that this material does not sustain combustion. At the discretion of the shipper, this material does not need to be considered a Dangerous Good when offered for transport by ground in the U.S. according to 49 CFR 173.120(b)(3), by air according to IATA DGR section 3.3.1.3(a), or by sea according to IMDG Code chapter 2.3.1.3.1.

SECTION 15: Regulatory information

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

There is no additional information.

National regulations (Australia)

Australian Inventory of Chemical Substances (AICS)

All ingredients are listed or exempt from listing.

National inventories

Country	Inventory	On inventory (yes/no)*
AU	AIIC	Yes
CA	DSL	Yes
CA	NDSL	No
CN	IECSC	Yes
EU	ECSI	No
EU	REACH Reg.	No

Country	Inventory	On inventory (yes/no)*
JP	CSCL-ENCS	No
KR	KECI	Yes
NZ	NZIoC	Yes
PH	PICCS	Yes
US	TSCA	Yes

Legend

AIIC	Australian Inventory of Industrial Chemicals
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TSCA	Toxic Substance Control Act

SECTION 16: Other information

Revision Date: 2023-07-28

Version number: GHS 1.0

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Ceiling-C	Ceiling value.
DGR	Dangerous Goods Regulations (see IATA/DGR).
EINECS	European Inventory of Existing Commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
IATA	International Air Transport Association.
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA).
IMDG	International Maritime Dangerous Goods Code.
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval.
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval.
NLP	No-Longer Polymer.
PBT	Persistent, Bioaccumulative and Toxic.
ppm	Parts per million.
STEL	Short-term exposure limit.
TWA	Time-weighted average.

Abbr.	Descriptions of used abbreviations
vPvB	Very Persistent and very Bioaccumulative.
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants.

Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

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End of SDS