5 May 2017

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James Stanfield
Project Manager
Ridgemill Pty Limited
Level 1, 16 Marie Street
Milton Qld 4064

Re: Overseas Passenger Terminal Tenancy 5 – hazardous and offensive development/acid sulfate soils

Dear James,

1 Introduction

Ridgemill Pty Limited has requested EMM Consulting Pty Limited to provide a response to a request for information from the NSW Department of Planning and Environment (DPE) (dated 22/03/2017) on the State significant development application for the proposed restaurant, bar and microbrewery at Tenancy 5 of the Overseas Passenger Terminal (the project).

DPE requested the following information:

> **Storage of materials associated with the micro-brewery**
>
> The Department has identified the use of the micro-brewery potentially requires the storage of dangerous goods on site. The Department considers that further consideration should be undertaken about the storage of potentially dangerous and hazardous materials and goods on site and their quantities. Any such consideration should be made using the Department's *Hazard and Offensive Development Application Guideline (Applying SEPP 33)*.
>
> **Acid sulphate soils**
>
> The Department notes that the site appears to be categorised as having Class 1 acid sulphate soils. The Department requests that the RTS includes consideration of acid sulphate soils.

This letter provides the following responses to DPE's requests:

- Hazardous and offensive development –
  - The quantities of cleaning chemicals proposed to be stored and used at the project are compared to the screening threshold quantities in Table 3 of *Applying SEPP 33* (DoP 2011) to determine if the project is potentially hazardous and if a preliminary hazard analysis (PHA) is required.
  - Potentially offensive emissions from the project are considered with reference to Section 5.1 of DoP (2011) to determine if the project has the potential to be offensive.
- Acid sulfate soils – project construction activities are considered with reference to the City of Sydney planning requirements and State assessment methods for acid sulfate soils.

2 Potentially hazardous development

2.1 Applying State Environmental Planning Policy 33 risk screening method

Under State Environmental Planning Policy 33 – Hazardous and Offensive Development (SEPP 33), a development is classified as potentially hazardous if the thresholds in DoP (2011) — which compare the quantities of stored or used hazardous materials to the distance from publicly accessible areas — are exceeded. The hazardous materials classifications in NTC (2016) are used in DoP (2011).

2.1.1 Materials stored, processed or handled which could be hazardous

Hazardous materials are proposed to be stored and used onsite for cleaning of brewery equipment. These materials will be stored in bunded bins in the micro-brewery.

Storage locations, quantities and potentially hazardous properties of the materials are in Table 2.1. The safety data sheets (SDS) for these materials are in Attachment 1, which state that they are hazardous.

Table 2.1 Potentially hazardous goods stored onsite

Name	Use	NTC 2016 classification	Storage conditions	Maximum quantity
BRU-SOLV	Cleaning	8 (packing group II)	Container in bunded bin	25 L
OXONIA ACTIVE 150	Sanitizer – food contact surface	5.1 (8) (packing group II)	Container in bunded bin	25 L
TRIMETA DUO	Cleaner and disinfectant	8 (packing group III)	Container in bunded bin	25 L

A screening test against the thresholds in SEPP 33 for the hazardous materials in Table 2.1 is provided in Table 2.2.

Table 2.2 *Applying SEPP 33* screening test

Goods	Maximum quantities	SEPP 33 screening threshold	Potentially hazardous
BRU-SOLV	25 L/~42 kg	25 t for Class 8 (packing group II)	No, maximum quantity is less than screening threshold
OXONIA ACTIVE 150	25 L/~26 kg	5 t for Class 5	No, maximum quantity is less than screening threshold
TRIMETA DUO	25 L/~33 kg	50 t for Class 8 (packing group III)	No, maximum quantity is less than screening threshold

Table 2.2 demonstrates that the quantities of hazardous materials proposed to be stored and used at the project will be well below the quantity thresholds that would qualify the project as potentially hazardous and a PHA is not required.

2.1.2 Transport of hazardous material

DoP (2011) sets threshold limits for the transportation of hazardous materials to and from a site. The quantities of hazardous materials destined for the project will be a small component of larger loads on delivery trucks and will not contribute significantly to the overall hazard represented by materials being transported on the trucks.

2.2 Other risk factors

DoP (2011) requires an assessment of other hazards/risk factors outside the scope of the risk screening method. An assessment of other types of hazards associated with the project is in Table 2.3.

Table 2.3 Other types of hazards

Type of hazard	Comments
Any incompatible materials (hazardous and non-hazardous materials)	No – materials will be stored separately in bunded containers.
Any wastes that could be hazardous	No – according to the SDSs the substances are not hazardous when diluted for use and can be disposed into the sewerage.
The possible existence of dusts within confined areas	No
Types of activities the dangerous goods and otherwise hazardous materials are associated with (storage, processing, reaction, etc.)	Only as indicated in Table 2.1.
Incompatible, reactive or unstable materials and process conditions that could lead to uncontrolled reaction or decomposition.	No
Storage or processing operations involving high (or extremely low) temperatures and/or pressure.	No
Details of known past incidents (and near misses) involving hazardous materials and processes in similar industries.	Spills of the substances proposed to be used at the project are generally not reported given their small quantities, the substances will be stored separately at the project and in small quantities which are easily contained if there is a spill.

No other hazards/risk factors outside the scope of the risk screening method that are associated with the site have been identified.

The control measures in the SDSs for the substances will be implemented if there is a spill of the substances.

3 Potentially offensive development

DoP (2011) states that a potentially offensive industry is a development which, if it were to operate without employing any measures to reduce or minimise its impact in the locality or on the existing or likely future development on other land, would emit a polluting discharge in a manner which would have a significant adverse impact in the locality or on the existing or likely future development on other land.

The project will have potential to emit noise and odours that could impact the locality and existing or future development of adjacent land.

The noise assessment (EMM 2016) predicted that operation of the project would not impact nearby residential or commercial neighbours. The noise assessment predicted that construction of the project could impact nearby commercial neighbours, however, these impacts can be readily managed. Therefore, it was concluded that noise emissions from the project will not qualify it as offensive under SEPP 33.

There is potential for odour to be generated by production of ethanol at the microbrewery. The assessment of potential odour generation determined that vapours and subsequent odours from the brewing process will be negligible (RE 2017). Further, a vapour condenser system will be used at the project which will prevent offsite dispersion of vapours. Therefore, it was concluded that odour emissions from the project will not qualify it as offensive under SEPP 33.

Given the above, the project is not potentially offensive development.

4 Acid sulfate soils

DPE note that the site is on Class 1 acid sulfate soils land and NSW regional mapping indicates it is on 'disturbed terrain' (Attachment 2).

According to Clause 7.14(2) of the Sydney Local Environmental Plan 2012 (LEP), any development of Class 1 land requires development consent, which must not be granted unless an acid sulfate soils management plan has been prepared in accordance with ASSMAC (1998) (Clause 7.14(3)). However, a preliminary assessment can be undertaken in accordance with Section 2 of ASSMAC (1998) to determine if acid sulfate soils occur at the site. An acid sulfate soils management plan is not required to be prepared if they do not occur at the site.

DLWC (1998) advises that the risk of occurrence of acid sulphate soils be assessed in areas of disturbed terrain.

Given the above, a preliminary assessment of the occurrence of acid sulphate soils at the site will be undertaken prior to construction. If such soils are discovered, construction will not commence until an acid sulfate soils management plan has been prepared and approved under ASSMAC (1998).

5 Conclusion

This letter provides information related to hazardous materials and acid sulphate soils and concludes that:

- the storage and handling of hazardous substances at the project will not qualify it as potentially hazardous development under SEPP 33 and a PHA is not required;
- the generation of noise and odour at the project will not qualify it as potentially offensive development under SEPP 55; and
- the occurrence of acid sulphate soils at the site will be assessed and management measures will be implemented if such soils are encountered during testing.

Yours sincerely

Mark Roberts
Senior environmental scientist
mroberts@emmconsulting.com.au

REFERENCES

NSW Department of Planning (DoP) 2011 *Hazardous and offensive development application guidelines: applying SEPP 33*. NSW Government.

National Transport Commission (NTC) 2016 *Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.3.* Commonwealth of Australia.

EMM Consulting (EMM) 2016 *Overseas Passenger Terminal (Tenancy 5) Circular Quay West – acoustic assessment.* Report prepared for Jimmy's on the Mall Pty Limited.

Ramboll Environ (RE) 2017 *Overseas Passenger Terminal (Tenancy 5) – micro brewery odour emissions control*. Letter prepared for Ridgemill Pty Limited.

Acid Sulfate Soil Management Advisory Committee (ASSMAC) 1998 *Acid Sulfate Soil Manual*. NSW Government.

NSW Department of Land and Water Conservation (DLWC) 1998 *Guidelines for the use of acid sulphate soil risk maps Second Edition*. NSW Government.

ATTACHMENT 1 – SAFTEY DATA SHEETS

SAFETY DATA SHEET

BRU-SOLV

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	BRU-SOLV
Other means of identification	:	Not applicable.
Recommended use	:	Cleaning product
Product dilution information	:	2.5 % - 5.0 %
Company	:	ECOLAB PTY LTD 2 Drake Avenue Macquarie Park, NSW Australia 2113 1 800 022 002
Emergency telephone number	:	1800 205 506, +64 7 958 2372
Issuing date	:	23.10.2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Corrosive to metals	:	Category 1
Skin corrosion/irritation	:	Category 1A
Serious eye damage/eye irritation	:	Category 1

Product AT USE DILUTION

Skin corrosion/irritation	:	Category 2
Serious eye damage/eye irritation	:	Category 2A

GHS Label element

Product AS SOLD

Hazard pictograms :

Signal Word	:	Danger
Hazard Statements	:	May be corrosive to metals. Causes severe skin burns and eye damage.
Precautionary Statements	:	**Prevention:** Keep only in original container. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** IF SWALLOWED: rinse mouth. Do NOT induce vomiting.IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.IF IN EYES: Rinse

cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
Absorb spillage to prevent material damage.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Product AT USE DILUTION

Hazard pictograms :

Signal Word : Warning

Hazard Statements : Causes skin irritation.
Causes serious eye irritation.

Precautionary Statements : **Prevention:**
Wash skin thoroughly after handling. Wear eye protection/face protection. Wear protective gloves.
Response:
IF ON SKIN: Wash with plenty of soap and water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/ attention. Take off contaminated clothing and wash before reuse.

Product AS SOLD

Other hazards : None known.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	**CAS-No.**	**Concentration: (%)**
sodium hydroxide	1310-73-2	30 - 60
ethylenediamine tetraacetate	64-02-8	1 - 5

Product AT USE DILUTION

Chemical Name	**CAS-No.**	**Concentration: (%)**
sodium hydroxide	1310-73-2	1 - 5

Section: 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed	:	Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately. Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).
If inhaled	:	Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Product AT USE DILUTION

In case of eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.
In case of skin contact	:	Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.
If swallowed	:	Rinse mouth. Get medical attention if symptoms occur. Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).
If inhaled	:	Get medical attention if symptoms occur.

Section: 5. FIREFIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) metal oxides
Special protective equipment for firefighters	:	Use personal protective equipment.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

Hazchem Code	:	2R

Section: 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures	:	Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Section: 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing.
Conditions for safe storage	:	Do not store near acids. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Product AT USE DILUTION

Advice on safe handling	:	Avoid contact with skin and eyes. Wash hands thoroughly after handling.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD
Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
sodium hydroxide	1310-73-2	Peak limit	2 mg/m3	AU OEL

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Impervious gloves
Standard glove type.
PVC

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection : Impervious gloves

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

		Product AS SOLD	Product AT USE DILUTION
Appearance	:	liquid	liquid
Colour	:	clear, amber	amber
Odour	:	slight	slight
pH	:	13.0 - 14.0, 100 %	11.5 - 12.5
Flash point	:	Not applicable., Does not sustain combustion.	
Odour Threshold	:	no data available	
Melting point/freezing point	:	no data available	
Initial boiling point and boiling range	:	> 100 °C	

Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.32 - 1.34
Water solubility	:	soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, kinematic	:	no data available
Explosive properties	:	no data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use.
Conditions to avoid	:	None known.
Incompatible materials	:	Metals Bases Acids
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) metal oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Causes digestive tract burns.

Inhalation	:	May cause nose, throat, and lung irritation.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	:	Causes serious eye irritation.
Skin	:	Causes skin irritation.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Product AT USE DILUTION

Eye contact	:	Redness, Pain, Irritation
Skin contact	:	Redness, Irritation
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product AS SOLD

Acute oral toxicity	:	Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	:	no data available
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available

Aspiration toxicity : no data available

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity

Environmental Effects : This product has no known ecotoxicological effects.

Product

Toxicity to fish : no data available

Toxicity to daphnia and other aquatic invertebrates : no data available

Toxicity to algae : no data available

Components

Toxicity to fish : ethylenediamine tetraacetate
96 h LC50 Fish: 121 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : sodium hydroxide
48 h EC50: 40 mg/l

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Product AS SOLD

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION

Disposal methods : Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.

Disposal considerations : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and

federal regulations.

Section: 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADG)

UN number	:	1824
Description of the goods	:	SODIUM HYDROXIDE SOLUTION
Class	:	8
Packing group	:	II
Hazchem Code	:	2R
Environmentally hazardous	:	No

Sea transport (IMDG/IMO)

UN number	:	1824
Description of the goods	:	SODIUM HYDROXIDE SOLUTION
Class	:	8
Packing group	:	II
Marine pollutant	:	No

Product AT USE DILUTION
Not intended for transport.

Section: 15. REGULATORY INFORMATION

National regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 6

The components of this product are reported in the following inventories:

United States TSCA Inventory :
On TSCA Inventory

Canadian Domestic Substances List (DSL) :
All components of this product are on the Canadian DSL.

Australia. Industrial Chemical (Notification and Assessment) Act :
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand :
On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :
not determined

Japan. ISHL - Inventory of Chemical Substances (METI) :
not determined

Korea. Korean Existing Chemicals Inventory (KECI) :
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
On the inventory, or in compliance with the inventory

China Inventory of Existing Chemical Substances :
On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION

Sources of key data used to compile the Safety Data Sheet

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
IARC: (International Agency for Research on Cancer)
US. National Toxicology Program (NTP) Report on Carcinogens
ECHA List of Publishable Substances Registered
EU HPVCs (High Production Volume Chemicals)

Issuing date	:	23.10.2015
Date of first issue	:	23.10.2015
version	:	1.0
Prepared by	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

OXONIA ACTIVE 150

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	OXONIA ACTIVE 150
Other means of identification	:	Not applicable.
Recommended use	:	Sanitizer - Food contact surface
Product dilution information	:	0.05 % - 1.0 %
Company	:	ECOLAB PTY LTD 2 Drake Avenue Macquarie Park, NSW Australia 2113 1 800 022 002
Emergency telephone number	:	1800 205 506, +64 7 958 2372
Issuing date	:	16.11.2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Oxidizing liquids	:	Category 3
Skin corrosion/irritation	:	Category 1A
Serious eye damage/eye irritation	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3 (Respiratory system)
Corrosive to metals	:	Category 1

Product AT USE DILUTION
Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD

Hazard pictograms :

Signal Word : Danger

Hazard Statements : May intensify fire; oxidiser.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
May be corrosive to metals.

Precautionary Statements : **Prevention:**
Keep away from heat. Take any precaution to avoid mixing with combustibles. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection. Keep only in original container.
Response:

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. Absorb spillage to prevent material damage. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage:
Store in corrosive resistant container with a resistant inner liner.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Product AT USE DILUTION

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Product AS SOLD

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	CAS-No.	Concentration: (%)
Acetic acid	64-19-7	30 - 60
Peroxyacetic acid	79-21-0	10 - 30
Hydrogen peroxide	7722-84-1	10 - 30

Product AT USE DILUTION

No hazardous ingredients

Section: 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).

Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled	:	Remove to fresh air. Treat symptomatically. Get medical attention immediately.
Protection of first-aiders	:	If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Treat symptomatically.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.

Product AT USE DILUTION

In case of eye contact	:	Rinse with plenty of water.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766). Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.

Section: 5. FIREFIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Special protective equipment for firefighters Oxidizer. Contact with other material may cause fire. Oxidizer; material is an oxidizer which may readily react with other materials, especially upon heating. Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides
Special protective equipment for firefighters	:	In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.
Specific extinguishing methods	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.
Hazchem Code	:	2W

Section: 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they

		must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Never soak up spilled or leaked acids and bases with sawdust, wood chips or similar materials. Isolate the waste do not allow it to come into contact with incompatible materials. For small spills contain with sand or vermiculite and dilute the contained product at least 10 times with water. Transfer to an open topped container and remove to a safe place for neutralization* / disposal. For large spills contain spill and evacuate the area, leave until the reaction subsides, then collect up for disposal. Obtain consent from the local water company / authority if considering discharge to sewer. *NEUTRALIZATION : once diluted, neutralize with a suitable alkali such as sodium bicarbonate.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Section: 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions for safe storage	:	Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from strong bases. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Pressure bursts may occur due to gas evolution if the container is not adequately vented.
Storage temperature	:	-10 °C to 50 °C

Product AT USE DILUTION

Advice on safe handling	:	Wash hands after handling. For personal protection see section 8.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD
Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Acetic acid	64-19-7	VLE	15 ppm 37 mg/m3	AU OEL
		TWA	10 ppm 25 mg/m3	AU OEL
Hydrogen peroxide	7722-84-1	TWA	1 ppm 1.4 mg/m3	AU OEL

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection : Safety goggles
Face-shield

Hand protection : Wear the following personal protective equipment:
Standard glove type.
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Skin protection : Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Personal protective equipment

Eye protection : No special protective equipment required.

Hand protection : No special protective equipment required.

Skin protection : No special protective equipment required.

Respiratory protection : No personal respiratory protective equipment normally required.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

		Product AS SOLD	Product AT USE DILUTION
Appearance	:	liquid	liquid
Colour	:	colourless	colourless
Odour	:	pungent	vinegar-like
pH	:	1.0 - 2.0, 100 %	4.0 - 6.0

Flash point	:	96 °C closed cup, Does not sustain combustion.
Odour Threshold	:	no data available
Melting point/freezing point	:	no data available
Initial boiling point and boiling range	:	> 100 °C
Evaporation rate	:	no data available
Flammability (solid, gas)	:	no data available
Upper explosion limit	:	no data available
Lower explosion limit	:	no data available
Vapour pressure	:	no data available
Relative vapour density	:	no data available
Relative density	:	1.06 - 1.18
Water solubility	:	soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, kinematic	:	no data available
Explosive properties	:	no data available
Oxidizing properties	:	no data available
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	:	pressure build-up
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	Direct sources of heat. Exposure to sunlight.
Incompatible materials	:	Metals Bases Organic materials
Hazardous decomposition products	:	Decomposition products may include the following materials: Carbon oxides

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Causes digestive tract burns.
Inhalation	:	May cause respiratory tract irritation. May cause nose, throat, and lung irritation.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Product AT USE DILUTION

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product AS SOLD

Acute oral toxicity	:	Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	:	4 h Acute toxicity estimate : > 5 mg/l
Acute dermal toxicity	:	Acute toxicity estimate : > 2,000 mg/kg
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	Does not cause respiratory sensitisation.
Carcinogenicity	:	no data available
Reproductive effects	:	no data available

Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	no data available
Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available

Components

Toxicity to fish	:	Acetic acid 96 h LC50: 75 mg/l Peroxyacetic acid 96 h LC50: 0.8 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates	:	Peroxyacetic acid 48 h EC50: 0.73 mg/l

Components

Toxicity to algae	:	Peroxyacetic acid 72 h EC50: 0.7 mg/l Hydrogen peroxide 72 h EC50: 1.38 mg/l

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Product AS SOLD

Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION

Disposal methods	:	Diluted product can be flushed to sanitary sewer.
Disposal considerations	:	Dispose of in accordance with local, state, and federal regulations.

Section: 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADG)

UN number	:	3098
Description of the goods	:	OXIDIZING LIQUID, CORROSIVE, N.O.S. (Peroxyacetic acid, Hydrogen peroxide)
Class	:	5.1 (8)
Packing group	:	II
Hazchem Code	:	2W
Environmentally hazardous	:	No

Sea transport (IMDG/IMO)

UN number	:	3098
Description of the goods	:	OXIDIZING LIQUID, CORROSIVE, N.O.S. (Peroxyacetic acid, Hydrogen peroxide)
Class	:	5.1 (8)
Packing group	:	II
Marine pollutant	:	No

Product AT USE DILUTION

Not intended for transport.

Section: 15. REGULATORY INFORMATION

National regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 6

The components of this product are reported in the following inventories:

United States TSCA Inventory :
On TSCA Inventory

Canadian Domestic Substances List (DSL) :
All components of this product are on the Canadian DSL.

Australia. Industrial Chemical (Notification and Assessment) Act :

On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand :
On the inventory, or in compliance with the inventory

Japan. ENCS - Existing and New Chemical Substances Inventory :
On the inventory, or in compliance with the inventory

Japan. ISHL - Inventory of Chemical Substances (METI) :
On the inventory, or in compliance with the inventory

Korea. Korean Existing Chemicals Inventory (KECI) :
On the inventory, or in compliance with the inventory

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
On the inventory, or in compliance with the inventory

China Inventory of Existing Chemical Substances :
On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION

Sources of key data used to compile the Safety Data Sheet

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
IARC: (International Agency for Research on Cancer)
US. National Toxicology Program (NTP) Report on Carcinogens
ECHA List of Publishable Substances Registered
EU HPVCs (High Production Volume Chemicals)

Issuing date	:	16.11.2015
Date of first issue	:	14.10.2015
version	:	1.0
Prepared by	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

SAFETY DATA SHEET

TRIMETA DUO

Section: 1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	TRIMETA DUO
Other means of identification	:	Not applicable.
Recommended use	:	Cleaner and disinfectant
Restrictions on use	:	Reserved for industrial and professional use.
Product dilution information	:	1.5 % - 2.0 % 1.5% - 2.0%
Company	:	ECOLAB PTY LTD 2 Drake Avenue Macquarie Park, NSW Australia 2113 1 800 022 002
Emergency telephone number	:	1800 205 506, +64 7 958 2372
Issuing date	:	24.12.2015

Section: 2. HAZARDS IDENTIFICATION

GHS Classification

Product AS SOLD

Corrosive to metals	:	Category 1
Skin corrosion/irritation	:	Category 1
Serious eye damage/eye irritation	:	Category 1

Product AT USE DILUTION
Not a hazardous substance or mixture.

GHS Label element

Product AS SOLD
Hazard pictograms :

Signal Word	:	Danger
Hazard Statements	:	May be corrosive to metals. Causes severe skin burns and eye damage.
Precautionary Statements	:	**Prevention:** Keep only in original container. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection. **Response:** IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician. IF IN

EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Absorb spillage to prevent material damage. Wash contaminated clothing before reuse.
Storage:
Store in corrosive resistant container with a resistant inner liner. Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Product AT USE DILUTION

Precautionary Statements : **Prevention:**
Wash hands thoroughly after handling.
Response:
Get medical advice/ attention if you feel unwell.
Storage:
Store in accordance with local regulations.

Product AS SOLD

Other hazards : Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

Product AS SOLD

Pure substance/mixture : Mixture

Chemical Name	**CAS-No.**	**Concentration: (%)**
Phosphoric acid	7664-38-2	30 - 60
Glycolic acid	79-14-1	1 - 5

Product AT USE DILUTION

No hazardous ingredients

Section: 4. FIRST AID MEASURES

Product AS SOLD

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

If swallowed : Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766).

Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention.

Protection of first-aiders : If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Notes to physician	:	In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.
Most important symptoms and effects, both acute and delayed	:	See Section 11 for more detailed information on health effects and symptoms.
Product AT USE DILUTION		
In case of eye contact	:	Rinse with plenty of water.
In case of skin contact	:	Rinse with plenty of water.
If swallowed	:	Contact the Poison's Information Centre (eg Australia 13 1126; New Zealand 0800 764 766). Rinse mouth. Get medical attention if symptoms occur.
If inhaled	:	Get medical attention if symptoms occur.

Section: 5. FIREFIGHTING MEASURES

Product AS SOLD

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	None known.
Specific hazards during firefighting	:	Exposure to decomposition products may be a hazard to health.
Hazardous combustion products	:	Decomposition products may include the following materials: Carbon oxides nitrogen oxides (NOx) Sulphur oxides Oxides of phosphorus metal oxides
Special protective equipment for firefighters	:	In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.
Specific extinguishing methods	:	Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.
Hazchem Code	:	2R

Section: 6. ACCIDENTAL RELEASE MEASURES

Product AS SOLD

Personal precautions, protective equipment and emergency procedures	:	Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Do not allow contact with soil, surface or ground water.

Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Product AT USE DILUTION

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed.
Environmental precautions	:	No special environmental precautions required.
Methods and materials for containment and cleaning up	:	Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

Section: 7. HANDLING AND STORAGE

Product AS SOLD

Advice on safe handling	:	Do not ingest. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not get in eyes, on skin, or on clothing. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions for safe storage	:	Keep away from strong bases. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.
Storage temperature	:	5 °C to 40 °C

Product AT USE DILUTION

Advice on safe handling	:	Wash hands after handling. For personal protection see section 8.
Conditions for safe storage	:	Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Product AS SOLD
Components with workplace control parameters

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
Phosphoric acid	7664-38-2	TWA	1 mg/m3	AU OEL
		VLE	3 mg/m3	AU OEL

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	Face-shield

		Wear chemical splash goggles.
Hand protection	:	Wear the following personal protective equipment: Standard glove type. Impervious gloves PVC Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Skin protection	:	Chemical resistant apron
Respiratory protection	:	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

Product AT USE DILUTION

Engineering measures	:	Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

Personal protective equipment

Eye protection	:	No special protective equipment required.
Hand protection	:	No special protective equipment required.
Skin protection	:	No special protective equipment required.
Respiratory protection	:	No personal respiratory protective equipment normally required.

Section: 9. PHYSICAL AND CHEMICAL PROPERTIES

		Product AS SOLD	Product AT USE DILUTION
Appearance	:	liquid	liquid
Colour	:	light yellow	light yellow
Odour	:	Disinfectants	Disinfectants
pH	:	0.5 - 1.0, 100 %	1.64 - 1.74
Flash point	:	Not applicable.	
Odour Threshold	:	no data available	
Melting point/freezing point	:	no data available	
Initial boiling point and boiling range	:	> 100 °C	
Evaporation rate	:	no data available	
Flammability (solid, gas)	:	no data available	
Upper explosion limit	:	no data available	
Lower explosion limit	:	no data available	
Vapour pressure	:	no data available	
Relative vapour density	:	no data available	

Relative density	:	1.26 - 1.3
Water solubility	:	soluble
Solubility in other solvents	:	no data available
Partition coefficient: n-octanol/water	:	no data available
Auto-ignition temperature	:	no data available
Thermal decomposition	:	no data available
Viscosity, kinematic	:	no data available
Explosive properties	:	no data available
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Molecular weight	:	no data available
VOC	:	no data available

Section: 10. STABILITY AND REACTIVITY

Product AS SOLD

Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Do not mix with bleach or other chlorinated products – will cause chlorine gas.
Conditions to avoid	:	None known.
Incompatible materials	:	Bases
Hazardous decomposition products	:	No decomposition if stored and applied as directed.

Section: 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation, Eye contact, Skin contact

Potential Health Effects

Product AS SOLD

Eyes	:	Causes serious eye damage.
Skin	:	Causes severe skin burns.
Ingestion	:	Causes digestive tract burns.
Inhalation	:	Harmful if inhaled. May cause nose, throat, and lung irritation.
Chronic Exposure	:	Health injuries are not known or expected under normal use.

Product AT USE DILUTION

Eyes	:	Health injuries are not known or expected under normal use.
Skin	:	Health injuries are not known or expected under normal use.
Ingestion	:	Health injuries are not known or expected under normal use.
Inhalation	:	Health injuries are not known or expected under normal use.

Chronic Exposure	:	Health injuries are not known or expected under normal use.

Experience with human exposure

Product AS SOLD

Eye contact	:	Redness, Pain, Corrosion
Skin contact	:	Redness, Pain, Corrosion
Ingestion	:	Corrosion, Abdominal pain
Inhalation	:	Respiratory irritation, Cough

Product AT USE DILUTION

Eye contact	:	No symptoms known or expected.
Skin contact	:	No symptoms known or expected.
Ingestion	:	No symptoms known or expected.
Inhalation	:	No symptoms known or expected.

Toxicity

Product AS SOLD

Acute oral toxicity	:	Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	:	4 h Acute toxicity estimate : 2.53 mg/l
Acute dermal toxicity	:	no data available
Skin corrosion/irritation	:	no data available
Serious eye damage/eye irritation	:	no data available
Respiratory or skin sensitization	:	no data available
Carcinogenicity	:	no data available
Reproductive effects	:	no data available
Germ cell mutagenicity	:	no data available
Teratogenicity	:	no data available
STOT - single exposure	:	no data available
STOT - repeated exposure	:	no data available
Aspiration toxicity	:	no data available

Components

Acute dermal toxicity	:	Phosphoric acid LD50 rabbit: > 2,000 mg/kg

Section: 12. ECOLOGICAL INFORMATION

Product AS SOLD
Ecotoxicity

Environmental Effects	:	This product has no known ecotoxicological effects.

Product

Toxicity to fish	:	no data available
Toxicity to daphnia and other aquatic invertebrates	:	no data available
Toxicity to algae	:	no data available

Components

Toxicity to daphnia and other aquatic invertebrates	:	Phosphoric acid 48 h EC50 Daphnia magna (Water flea): > 100 mg/l

Components

Toxicity to algae	:	Phosphoric acid 72 h EC50 Desmodesmus subspicatus (green algae): > 100 mg/l Glycolic acid 72 h EC50: 44 mg/l

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

Other adverse effects

no data available

Section: 13. DISPOSAL CONSIDERATIONS

Product AS SOLD

Disposal methods	:	Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance with local regulations. Dispose of wastes in an approved waste disposal facility.
Disposal considerations	:	Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

Product AT USE DILUTION

Disposal methods	:	Diluted product can be flushed to sanitary sewer.
Disposal considerations	:	Dispose of in accordance with local, state, and federal regulations.

Section: 14. TRANSPORT INFORMATION

Product AS SOLD

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (ADG)

UN number	:	1805

Description of the goods	:	PHOSPHORIC ACID, SOLUTION
Class	:	8
Packing group	:	III
Hazchem Code	:	2R
Environmentally hazardous	:	No

Air transport (IATA)

UN number	:	1805
Description of the goods	:	Phosphoric acid, solution
Class	:	8
Packing group	:	III
Environmentally hazardous	:	No

Sea transport (IMDG/IMO)

UN number	:	1805
Description of the goods	:	PHOSPHORIC ACID SOLUTION
Class	:	8
Packing group	:	III
Marine pollutant	:	No

Product AT USE DILUTION
Not intended for transport.

Section: 15. REGULATORY INFORMATION

National regulatory information

Standard for the Uniform Scheduling of Medicines and Poisons	:	Schedule 6

The components of this product are reported in the following inventories:

United States TSCA Inventory :
not determined

Canadian Domestic Substances List (DSL) :
This product contains the following components that are not on the Canadian DSL nor NDSL.

Australia. Industrial Chemical (Notification and Assessment) Act :
On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand :
not determined

Japan. ENCS - Existing and New Chemical Substances Inventory :
not determined

Korea. Korean Existing Chemicals Inventory (KECI) :
not determined

Philippines Inventory of Chemicals and Chemical Substances (PICCS) :
On the inventory, or in compliance with the inventory

China Inventory of Existing Chemical Substances :
On the inventory, or in compliance with the inventory

Section: 16. OTHER INFORMATION

Sources of key data used to compile the Safety Data Sheet

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
IARC: (International Agency for Research on Cancer)
US. National Toxicology Program (NTP) Report on Carcinogens
ECHA List of Publishable Substances Registered
EU HPVCs (High Production Volume Chemicals)

Issuing date	:	24.12.2015
Date of first issue	:	18.12.2015
version	:	1.1
Prepared by	:	Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

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ATTACHMENT 2 – ACID SULFATE SOILS

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EMM

Acid sulfate soils

Overseas Passenger Terminal (Tenancy 5)
Response to submissions
Attachment 2