Safety Data Sheet METOL

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SECTION 1: Identification

GHS Product identifier

Product name	METOL

Recommended use of the chemical and restrictions on use

Developing agent used in black and white photographic developers and for most continuous tone developer applications and laboratory reagent.

Supplier's details

Name	ChemSupply Australia Pty Ltd
Address	38-50 Bedford Street 5013 Gillman South Australia Australia
Telephone	08 8440 2000
email	www.chemsupply.com

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

General hazard statement

Classified as dangerous goods according to the Australian Dangerous Goods Code (ADG).

Classified as Hazardous according to the Globally Harmonised System of classification and labelling of Chemicals (GHS) including Work, Health and Safety regulations, Australia.

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Skin sensitizer, Cat. 1
- Specific target organ toxicity following repeated exposure, Cat. 2
- Hazardous to the aquatic environment, short-term (acute), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic), Cat. 1
- Acute toxicity, oral, Cat. 4

GHS label elements, including precautionary statements

Pictograms

Signal word	**Warning**

Hazard statement(s)

H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H302	Harmful if swallowed
H373	May cause damage to organs through prolonged or repeated exposure
H317	May cause an allergic skin reaction

Precautionary statement(s)

P273	Avoid release to the environment.
P264	Wash hands thoroughly after handling.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P391	Collect spillage.
P270	Do not eat, drink or smoke when using this product.
P314	Get medical advice/attention if you feel unwell.
P272	Contaminated work clothing should not be allowed out of the workplace.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physcian if you feel unwell,
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of water/...
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P501	Dispose of contents/container to aproved waste disposal facility

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 344.39

Components

Component	Concentration
P-METHYLAMINOPHENOL SULFATE (CAS no.: 55-55-0; EC no.: 200-237-1; Index no.: 650-031-00-4)	**100 - 100 % (weight)**
CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Specific target organ toxicity following repeated exposure, Cat. 2; Skin sensitizer, Cat. 1; Hazardous to the aquatic environment, short-term (acute), Cat. 1; Hazardous to the aquatic environment, long-term (chronic), Cat. 1. HAZARDS: H302 - Harmful if swallowed; H317 - May cause an allergic skin reaction; H373 - May cause damage to organs [organs] through prolonged or repeated exposure [route]; H400 - Very toxic to aquatic life; H410 - Very toxic to aquatic life with long lasting effects.	

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice	For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).
If inhaled	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

In case of skin contact	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.
In case of eye contact	If in eyes, hold eyelids apart and flush eye continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor, or for at least 15 minutes.
If swallowed	If swallowed, do NOT induce vomiting.

Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary
For advice in an emergency, contact a Poisons Information Centre (Phone Australia 131 126) or a doctor at once.

SECTION 5: Fire-fighting measures

Suitable extinguishing media
Small fire: Use dry chemical, CO2, water spray or foam.
Large fire: Use water spray, fog or foam.
If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.

Specific hazards arising from the chemical
Irritating or highly toxic fumes (or gases), including carbon dioxide and probably carbon monoxide. Oxides of sulfur and nitrogen may also be present.
May burn but do not ignite readily. Runoff may pollute waterways. Fire may produce irritating, poisonous and/or corrosive fumes. Containers may explode when heated.

Special protective actions for fire-fighters
Fire fighters should wear full protective clothing and self-contained breathing apparatus (SCBA) operated in positive pressure mode. Fight fire from safe location.

Further information
As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Use personal protective equipment. Avoid dust formation. For personal protection see section 8.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Keep in suitable, closed containers for disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid ingestion and inhalation of dust. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated contact with skin. Minimize dust generation and accumulation. Keep containers tightly closed when not in use. Use with adequate ventilation.

Conditions for safe storage, including any incompatibilities
Store in tightly closed, labelled containers, in a cool, dry, well-ventilated area away from incompatible substances. Absorbs oxygen from the air and will darken upon exposure. Protect from direct sunlight, air and moisture. Do not store in direct sunlight. Store separately from reactive or combustible materials. Store away from sources of heat or ignition.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls
Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, gas, etc.) below recommended exposure limits.f the engineering controls are not sufficient to maintain concentrations of vapours/mists below the exposure standards, suitable respiratory protection must be worn.

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

Eye/face protection
The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection
Clean impervious clothing should be worn. Clothing for protection against
chemicals should comply with AS 3765 Clothing for Protection Against Hazardous
Chemicals.

Hand Protection: Normally not required but if in doubt ensure hand protection should complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection
Suitable protective workwear, e.g. cotton overalls buttoned at neck and wrist is recommended. Chemical resistant apron is recommended where large quantities are handled.

Respiratory protection
Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Physical state	Solid
Appearance	White to off-white, or beige, fine crystalline powder or crystals. Discolours in air.
Color	No data available.
Odor	Odourless.
Odor threshold	No data available.
Melting point/freezing point	260 °C (decomposes)
Boiling point or initial boiling point and boiling range	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.

Flash point	256 °C (CC)
Explosive properties	No data available.
Auto-ignition temperature	531 °C; 532 °C.
Decomposition temperature	260 °C.
Oxidizing properties	No data available.
pH	3.5 - 5 (5% H2O)
Kinematic viscosity	No data available.
Solubility	Solubility in Water: Moderately soluble (4.7 g/100 ml at 15 °C). [13] Solubility in Organic Solvents: Soluble in alcohol. Insoluble in ether.
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	No data available.
Evaporation rate	Negligible (n-butyl acetate = 1).
Density and/or relative density	Specific Gravity: > 1.0
Relative vapor density	No data available.

Particle characteristics
No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
No data available.

SECTION 10: Stability and reactivity

Reactivity
Stable under normal conditions of storage and handling.

Chemical stability
Stable under normal temperatures, pressures and conditions of use and storage. Sensitive to air and light - may discolour on exposure.

Possibility of hazardous reactions
Reacts with acids, acid anhydrides, acid chlorides and oxidants.

Conditions to avoid
Heat, flames, ignition sources, light, air, dust generation and incompatible materials.

Incompatible materials
Oxidizing agents, acids, acid anhydrides and acid chlorides.

Hazardous decomposition products
Toxic fumes, including nitrogen oxides and sulfur oxides, carbon dioxide and probably carbon monoxide.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
Harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhoea. May cause blood abnormalities.

Effects from ingestion by humans are not well documented. May resemble phenol and aniline poisoning which can cause headache, shallow respiration, low blood pressure and methaemoglobin formation.

May be harmful by inhalation. Dusts may irritate the respiratory system. Symptoms may include, coughing and sore throat. Exposure to high air concentrations of substance may cause systemic toxic effects.

Skin corrosion/irritation
May cause mechanical irritation and irritation in aqueous solutions, resulting in redness and itching. May cause local dermatitis at site of contact, as well as some evidence of sensitization (an allergic skin reaction) dermatitis in which subsequent exposure triggers a chronic condition that is resistant to medication.

Serious eye damage/irritation
May cause abrasive irritation in contact with the eyes, resulting in redness, pain, itching and damage to eye tissue.

Eye irritation (rabbit): moderate to strong irritation.

Respiratory or skin sensitization
May cause an allergic skin reaction

Germ cell mutagenicity
Not considered to be a mutagenic hazard.

Carcinogenicity
Not considered to be a carcinogenic hazard.

Reproductive toxicity
Not considered to be toxic to reproduction.

Specific target organ toxicity (STOT) - single exposure
Not expected to cause toxicity to a specific target organ.

Specific target organ toxicity (STOT) - repeated exposure
May cause damage to organs through prolonged or repeated exposure

Aspiration hazard
Not expected to be an aspiration hazard.

Additional information
Chronic Effects: Harmful: danger of serious damage to health by prolonged exposure if swallowed. Nervous system, liver, kidneys and bone marrow may be affected. The substance may have effects on the blood, resulting in lesions of blood cells. Weight loss, anaemia, weakness and irritability may occur. Prolonged or repeated ingestion of high and intermediate doses may produce brown urine, necrosis of the renal tubular epithelial cells, degeneration of haemoglobin in circulating erythrocytes, haemolytic anaemia, discoloured and enlarged spleens, and haemoglobinuric nephrosis, decreased activity, and death. Prolonged or repeated ingestion of low doses may produce minor kidney, spleen and red blood cell effects. Prolonged or repeated skin contact may cause skin irritation and skin sensitization dermatitis in some individuals.

HUMAN HEALTH TIER II ASSESSMENT FOR p-Methylaminophenol and its sulfate - https://www.nicnas.gov.au/chemical-information/imap-assessments/imap-group-assessment-report?assessment_id=892#cas-A_55-55-0 NICNAS.

SECTION 12: Ecological information

Toxicity

Highly toxic for aquatic organisms. May cause long-term adverse effects in the aquatic environment. This chemical has a high biological oxygen demand, and it is expected to cause significant oxygen depletion in aquatic systems. It has a high potential to affect aquatic organisms and secondary waste treatment microorganisms. It has a moderate potential to affect the germination and growth of some plants.

Acute Toxicity - Fish: Pimephales promelas LC50: 0.25 mg/l /96 h.

Persistence and degradability
Biological degradableness: ~ 30 % (test in closed bottle).
Biologically not readily degradable.
TOD: 1.49 g/g.
Oxygen Demand Data: BOD5: 0.75 g/g; 0.55 g/g acclimated sludge.

Bioaccumulative potential
No data available.

Mobility in soil
No data available.

Results of PBT and vPvB assessment
No data available.

Endocrine disrupting properties
No data available.

Other adverse effects
No data available.

SECTION 13: Disposal considerations

Disposal methods

Product disposal
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations
Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)
UN Number: 3077
Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains 4-(Methylamino)-phenol sulphate)
Marine pollutant: Yes

Hazchem emergency action code (EAC)
2Z

IMDG

UN Number: 3077
Class: 9
Packing Group: III
EMS Number: F-A, S-F
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains 4-(Methylamino)-phenol sulphate)
Special Provisions: 277, 335, 966, 967, 969
Marine Pollutant:

IATA
UN Number: 3077
Class: 9
Packing Group: III
Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Contains 4-(Methylamino)-phenol sulphate)
Pax/Cargo Pkg Inst: 956
Max Net Qty/Pkg: 400kg
Cargo Aircraft Only Pkg Inst: 956
Max Net Qty/Pkg: 400kg
Special Provisions: A97, A158, A179, A197, A215

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP
Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer
ChemSupply Australia Pty Ltd does not warrant that this product is suitable for any use or purpose. The user must ascertain the suitability of the product before use or application intended purpose. Preliminary testing of the product before use or application is recommended. Any reliance or purported reliance upon ChemSupply Australia Pty Ltd with respect to any skill or judgement or advice in relation to the suitability of this product of any purpose is disclaimed. Except to the extent prohibited at law, any condition implied by any statute as to the merchantable quality of this product or fitness for any purpose is hereby excluded. This product is not sold by description. Where the provisions of Part V, Division 2 of the Trade Practices Act apply, the liability of ChemSupply Australia Pty Ltd is limited to the replacement of supply of equivalent goods or payment of the cost of replacing the goods or acquiring equivalent goods.