

DESCALER POWDER

Safety Data Sheet



1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

Product name: **DESCALER POWDER**

Synonyms
DESCALER POWDER

Product Code
511

Recommended use: Descaling, acid cleaning, nitrite removal, anodizing metals and electroplating.

Supplier Name **CLEAN PLUS CHEMICALS PTY LTD**

Address 16 George Young Street AUBURN NSW 2144

Telephone 02 9738 7444

Fax 02 9644 1777

Emergency 1800 201 700

Email customerservice@cleanplus.com.au

Web Site www.cleanplus.com.au

SDS Date 21st JANUARY 2021

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust) 6

Globally Harmonised System

Hazard Classification
Classification and Labelling of

Hazardous according to the criteria of the Globally Harmonised System of
Chemicals (GHS)

Hazard Categories Skin Corrosion/Irritation - Category 2 Serious Eye
Damage/Irritation - Category 2A
Long-term Hazard To The Aquatic Environment - Category 3

Pictograms



Signal Word

Warning

Hazard Statements

H319

Causes serious eye irritation.

H315

Causes skin irritation.

H412

Harmful to aquatic life with long lasting effects.

Precautionary

Preventio

P264

Wash exposed skin thoroughly after handling.

P273

Avoid release to the environment.

P280

Wear protective gloves/protective clothing/eye

Response

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

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P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue
P337 + P313	If eye irritation persists: Get medical advice/attention.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods
	by Road & Rail (ADG Code)

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Sulphamic Acid	H3NO3S	5329-14-6	100.00 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	Rinse mouth with water. Give water to drink provided victim is conscious. Do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration. Seek immediate medical attention.
Eye	Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Take care not to rinse contaminated water into the non-affected eye. consult an ophthalmologist.
Skin	Remove contaminated clothing. Wash affected area with plenty of water and soap for at least 15 minutes. Seek medical attention. Wash clothing before reuse.
Inhaled	Remove victim from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth to mouth method. Induce artificial respiration with the aid of a pocket mask equipped with a one way valve or other proper respiratory medical device. Seek medical attention.
Advice to Doctor	Symptoms of poisoning may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

Medical Conditions Aggravated by Exposure

Indication of any immediate medical attention and special treatment needed Symptoms of irritation to skin, eyes or lungs. Symptoms of exposure may include abdominal pain, vomiting, diarrhea, drop in blood pressure, burning sensation, shock.

Most important symptoms and effects, both acute and delayed: irritant effects, cough, shortness of breath. Inflammation of eye (redness, watering, itching, pain). Corneal damage. Skin inflammation (itching, scaling, reddening, pain, or occasionally, blistering). The following symptoms may occur: Pulmonary oedema; Lung irritation; Oesophagogastric injuries.

5. FIRE FIGHTING MEASURES

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General Measures	If safe to do so, move undamaged containers from fire area. Do NOT move cargo if cargo has been exposed to heat.
	Dam fire control water for later disposal. Avoid generating dust.
Flammability Conditions	Non-flammable.
Extinguishing Media	In case of fire, use appropriate extinguishing media most suitable for surrounding fire conditions include Foam; Carbon dioxide (CO ₂); Water spray jet.
Fire and Explosion Hazard	Non - combustible. Ambient fire may liberate hazardous vapours. Special hazards arising from the substance or mixture: In case of fire may be liberated: Ammonia (NH ₃); Nitrogen oxides (NO _x); Sulfur oxides (SO _x). Keep away from: Alkali, Cyanides, Oxidising Agents. Reacts violently with chlorine and fuming nitric acid causing explosion hazard.
Hazardous Products of Combustion	Generates dangerous gases or fumes in contact with : halogens, alkalines, oxidizing agents, nitrates, nitrites, nitric acid, metal and water. Fire may cause evolution of : sulphur dioxides, nitrogen oxides.

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Special Fire Fighting Instructions Clear fire area of all non-emergency personnel. Stay upwind. Keep out of low areas. Eliminate ignition sources.

Move fire exposed containers from fire area if it can be done without risk. Do NOT allow fire fighting water to reach waterways, drains or sewers. Store fire fighting water for treatment.

Personal Protective Equipment Fire fighters should wear a positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots and gloves) or chemical splash suit. Please note: Structural fire fighters uniform will provide limited protection.

Flash Point No Data Available

Lower Explosion Limit No Data Available

Upper Explosion Limit No Data

Available Auto Ignition Temperature No

Data Available **Hazchem Code** 2X

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure Avoid accidents, clean up immediately. Increase ventilation. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition. Consult an expert. Avoid generation for dust; do not inhale dusts.

Clean Up Procedures Cover drains. Collect, bind, and pump off spills. Take up dry. Avoid generation of dusts. Ensure all waste is collected and treated via a waste water treatment plant.

Containment Stop leak if safe to do so.

Decontamination Dilute with plenty of water. Neutralize. Suitable material for diluting or neutralizing: Lime; Soda ash.

Environmental Precautionary Measures

Do not allow product to reach drains, sewers or waterways. If product does enter a waterway, advise the Environmental Protection Authority or your local Waste Authority.

Evacuation Criteria Evacuate all unnecessary personnel.

Personal Precautionary Measures Personnel involved in the clean up should wear full protective clothing as listed in section 8.

7. HANDLING AND STORAGE

Handling Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product dust. Avoid prolonged or repeated exposure. Remove contaminated clothing and wash before reuse. Keep away from combustible material. Chemicals should be used only by those trained in handling potentially hazardous materials. Observe label precautions. Open and handle container with care. Measures to prevent aerosol and dust generation: Technical ventilation of workplace. Where necessary/ appropriate: Use the following local exhaust ventilation types: Receptor hood for dust.

Storage Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Keep away from: Alkali, Cyanides, Oxidising Agents. Reacts violently with chlorine and fuming nitric acid causing

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explosion hazard. Reacts slowly with water to form ammonium bisulfate. This product has a UN classification of 2967 and a Dangerous Goods Class 8 (corrosive) according to The Australian Code for the Transport of Dangerous Goods by Road and Rail.

Container

Container type/packaging must comply with all applicable local legislation. Store in original packaging as approved by manufacturer. Suitable container/equipment material: Acid-resistant.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General

The following exposure standard has been established by The Australian Safety and Compensation Council (ASCC);

DNEL/DMEL and PNEC
values: DNELs (workplace):
DNEL inhalation (8 h): 7.5
mg/m³ DNELs (consumer):
DNEL oral: 1.06 mg/kg
bw/day DNEL inhalation:
1.85 mg/m³ PNECs:
PNEC aqua (freshwater): 0.3 mg/L
PNEC sediment (freshwater): 0.3 mg/kg
sediment dw PNEC aqua (marine water):
0.03 mg/L
PNEC sediment (marine water): 0.03 mg/kg sediment dw

NOTE: The exposure value at the TWA is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. Peak limitation is a ceiling concentration which should not be exceeded over a measurement period which should be as short as possible but not exceeding 15 minutes.

These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Exposure Limits

No Data Available

Biological Limits

No information available on biological limit values for this product.

Engineering Measures

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Adequate ventilation should be provided so that exposure limits are not exceeded. Measures to prevent aerosol and dust generation: Technical ventilation of workplace. Where necessary/ appropriate: Use the following local exhaust ventilation types: Receptor hood for dust. Appropriate engineering controls:
Where possible/ appropriate: Closed system; Water recirculation. Neutralize any environmental emissions to water. Emissions to water: (local/municipal) sewage water treatment. Any significant emissions to air: scrubbers. Any significant emissions to water: on-site waste water treatment (chemical).

Personal Protection Equipment

RESPIRATOR: Filtering device with filter or ventilator filtering device of type: Half-face mask (EN 140): Filter-/apparatus type: P2 (AS1715/1716).
EYES: Wear goggles; Wear eye glasses with side protection according to EN 166 (AS1336/1337).
HANDS: Wear gloves: NR (natural rubber, natural latex); CR (chloroprene, chloroprene rubber); NBR (nitrile rubber); Butyl rubber (AS2161).
CLOTHING: Long-sleeved protective coveralls and safety footwear (AS3765/2210).

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Individual protection measures

Protective clothing needs to be selected specifically for the workplace, depending on concentration and quantities of the hazardous substances handled. The chemical resistance of the equipment should be enquired at the respective supplier.

Full contact :

Glove material : Nitrile
rubber Glove thickness :
0.11 mm Break through
time : > 480 min splash
contact :

Glove material : Nitrile
rubber Glove
thickness : 0.11 mm

Break through time : > 480 min

Work Hygienic Practices

Immediately change contaminated clothing. Apply preventive skin protection. Wash hand and face after working with substance.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystals
Odour	Odourless
Colour	White or colourless (white)
pH	1.18 1% SOLUTION AT 25 Deg C
Vapour Pressure	0.0078 hPa (@ No Data Available)
Relative Vapour Density	3.35
Boiling Point	Decomposes
Melting Point	205 °C
Freezing Point	No Data Available
Solubility	213 g/L 20°C
Specific Gravity	No Data Available
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	approx 1.3 Kg/m3
Corrosion Rate	No Data Available
Decomposition Temperature	>=205 °C
Density	2.13 g/cm3 Relative
Specific Heat	No Data Available

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Molecular Weight No Data Available

Net Propellant Weight No Data

Available **Octanol Water Coefficient** log

Pow: 0.10 **Particle Size** No Data

Available

Partition Coefficient No Data

Available **Saturated Vapour Concentration**

No Data Available **Vapour Temperature**

No Data

Available

Viscosity No Data Available

Volatile Percent No Data Available

VOC Volume No Data Available

Additional Characteristics Flammability: not classified as flammable
Explosivity: not classified as explosive
Oxidising properties: not classified as oxidising
Granulometry: > 50% above 650 µm ; < 1% below 250 µm
Sulfamic acid in water is a strong acid: 1N, pH=0.41; 0.75N, pH=0.5;
0.5N, pH=0.63; 0.25N, pH=0.87; 0.1N, pH=1.18; 0.05N, pH=1.41; 0.01N, pH=2.02

Potential for Dust Explosion No Data Available

Fast or Intensely Burning Characteristics No Data Available

Flame Propagation or Burning Rate of Solid Materials No Data Available

Non-Flammables That Could Contribute Unusual Hazards to a Fire No Data Available

Properties That May Initiate or Contribute to Fire Intensity No Data Available

Reactions That Release Gases or Vapours No Data Available

Release of Invisible Flammable Vapours and Gases No Data Available

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10. STABILITY AND REACTIVITY

General Information	Reacts violently with bases and is corrosive. Reacts violently with chlorine and fuming nitric acid causing explosion hazard. Reaction with: Alkali; Amines; Ammonia; Chlorine; Hydrochloric acid; Sulfuric acid; Oxidising agents, strong; Nitrogen oxides (NOx).
Chemical Stability	Stable. Slow hydrolysis to ammonium bisulphate. Decomposition temperature: 205 deg C.
Conditions to Avoid	Strong heating.
Materials to Avoid	Strong oxidizers, Nitric Acid, Chlorine. Solutions are strong acids and react violently with bases. Keep away from: Alkali, Cyanides, Oxidising Agents. Reacts violently with chlorine and fuming nitric acid causing explosion hazard.
Hazardous Decomposition Products - Generates dangerous gases or fumes in contact with : halogens, alkalines, oxidizing agents, nitrates, nitrites, nitric acid, metal and water. Thermal decomposition can lead to the escape of irritating gases and vapours. Fire may cause evolution of : sulphur dioxides, nitrogen oxides.	
Hazardous Polymerisation	No Data Available

11. TOXICOLOGICAL INFORMATION

General Information	Acute oral toxicity LD50 Rat: 3160 mg/kg bw Acute oral toxicity: LD50 rat: > 2.000 mg/kg Method: (OECD 401) LD50 Rat: 1600 mg/kg bw LD50 Rat: > 2000 mg/kg bw LDLo Guinea Pig: 1050 mg/kg bw Acute oral toxicity: LD50 rat: > 2.000 mg/kg (OECD 401) Rabbit Skin: irritation (OECD test guideline 404) Rabbit Eye: Severe irritation (OECD test guideline 405) Genotoxicity in vitro Mutagenicity (mammal cell test) : micronucleus: Negative (OECD test guideline 474) Ames test Salmonella typhimurium: negative (OECD test guideline 471) Specific target organ toxicity - single exposure: The substance or mixture is not classified as specific target organ toxicant, single exposure. Specific target organ - repeated exposure: The substance or mixture is not classified as specific target organ toxicant, repeated exposure. Aspiration hazard: No aspiration toxicity classification. Repeated dose oral toxicity NOAEL : 1000 90-day rat NOAEL: 250 (nominal) 90-day rat read-across : ammonium sulfamate NOAEL : 500, LOAEL : 1000; 105-day rat read-across : ammonium sulfamate CMR effects (carcinogenity, mutagenicity and toxicity for reproduction): Ames in vitro with and without Metabolic activation: negative Bacterial DNA-repair in vitro with and without Metabolic activation: negative Micronucleus in vivo with and without
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Metabolic activation: negative

Reproduction oral toxicity

NOAEL: 25 3-generation rat read-across : ammonium sulfamate

Fertility oral toxicity NOAEL: 150 2 x 10-day Quail read-across : ammonium sulfamate

Eye/Irritant

Causes eye irritation. Inflammation of eye (redness, watering, itching, pain). Corneal damage. Irritating to eyes. The aerosol is corrosive to the eyes. Serious potential effects.

Ingestion

irritations of mucous membranes in the mouth,pharynx,esophagus and gastrointestinal tract. Swallowing or vomiting of the product may result in aspiration hazard.

Inhalation

Symptoms : cough,shortness of breath,irritation symptoms in the respiratory tract. The following symptoms may occur: Pulmonary oedema; Lung irritation; Oesophagogastric injuries. Irritating to lungs. The aerosol is corrosive to the respiratory tract. Serious potential effects.

Skin/Irritant

Irritating to skin. Skin inflammation (itching, scaling, reddening, pain, or occasionally, blistering). Irritating to skin. The aerosol is corrosive to the skin. Serious potential effects.

Carcinogen Category

No Data Available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish LC50 pimephales promelas (fathead minnow): 70,3 mg/l/96h Toxicity to bacteria EC10 Pseudomonas putida: >= 1.000 mg/l/16h (IUCLID) Acute fish toxicity LC50 : 70 mg/L 96h Fathead minnow pH effects LC50 > 2000 mg/L 24h Guppy neutralised exposure LC50 : 670 mg/L Japanese barbell read-across : ammonium sulfamate LC50 : 203 mg/L 96h Catfish (fingerlings) read-across :ammonium sulfamate LC50 : 650 mg/L 96h Cherry salmon yamame trout (fingerlings) read-across :ammonium sulfamate

Long-term fish toxicity

LC50 : 630 mg/L 10d Japanes barbell read-across :ammonium sulfamate NOEC : 30 mg/L 7wk Rainbow trout read-across :ammonium sulfamate Acute algae toxicity IC50 >> 29 mg/L 72h Green algae neutralised exposure

Sewage sludge studies

EC10 > 1000 mg/L 16h Bacteria neutralised exposure EC10 > 1000 mg/L 24h Sludge neutralised exposure

Persistence/Degradability

Other ecotoxicity studies

LC50 : 680 mg/L 96h Caddisfly read-across :ammonium sulfamate LC50 : 560 mg/L 10d Caddisfly read-across :ammonium sulfamate

LC50 : 2650 mg/L 96h Aquatic sowbug read-across :ammonium sulfamate Persistent.

Mobility

High.

Environmental Fate

Do NOT let product reach waterways, drains and sewers. The following applied to nitrates in general: Hazard for drinking water. Biological effects : Harmful effect due to pH shift. Acidic properties. The solution in water is a

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	strong acid.
Bioaccumulation Potential	(Lit.) Bioaccumulation is not expected (log Pow <1). Negligible.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility. Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options.
Special Precautions for Land Fill	
Land Transport (Australia)	
ADG	

14. TRANSPORT INFORMATION

local regulations. This material may be suitable for approved landfill.

Proper Shipping Name	SULPHAMIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	2967
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

Sea Transport
IMDG

Proper Shipping Name	SULPHAMIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	2967
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	FA,SB
Marine Pollutant	No

Air Transport
IATA

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Proper Shipping Name	SULPHAMIC ACID
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	2967
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	Dangerous Goods according to the criteria of the Australian Code for the Transport of
Dangerous Goods	by Road & Rail (ADG Code)

15. REGULATORY INFORMATION

General Information	No Data Available
Poisons Schedule (Aust)	6

National/Regional Inventories

Australia (AICS)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined

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Taiwan (NCSR) Not Determined

USA (TSCA) Not Determined

16. OTHER INFORMATION

Additional Information

ABBREVIATIONS:

ADB - Air-Dry Basis.
BEI - Biological Exposure Indice(s)
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EINECS - European Inventory of Existing Commercial Substances.
GHS - Globally Harmonized System
IARC - International Agency for Research on Cancer.
M - moles per litre, a unit of concentration.
mg/m³ - Milligrams per cubic meter.
NOS - Not Otherwise Specified.
NTP - National Toxicology Program.
OSHA - Occupational Safety and Health Administration.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
TWA/ES - Time Weighted Average or Exposure Standard.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a Clean Plus Chemicals report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this Clean Plus Chemicals report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

Report Status

This Safety Data Sheet document has been compiled by Clean Plus Chemicals. Further clarification regarding any aspect of this product should contact Clean Plus Chemicals directly. While Clean Plus Chemicals has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Clean Plus Chemicals accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.