

1. IDENTIFICATION

Product Name	Tetraacetylethylenediamine (TAED)
Other Names	N,N'-ethylenebis[N -acetylacetamide]; Tetraacetyl ethylenediamine
Uses	Bleach activator in laundry detergents, textile industry and paper pulp.
Chemical Family	No Data Available
Chemical Formula	C10H16N2O4
Chemical Name	Acetamide, N,N'-1,2-ethanediylbis[N-acetyl-
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Not Scheduled

Redox Ltd

Corporate Office Sydney Locked Bag 15 Minto NSW 2566 Australia 2 Swettenham Road Minto NSW 2566 Australia All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

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Australia Auckland Christchurch Adelaide Brisbane Melbourne Perth UK London Sydney

New Zealand Malaysia Kuala Lumpur USA Los Angeles Hawke's Bay Oakland Mexico Saltillo



Globally Harmonised System

Hazard Classification	NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
Signal Word	None

National Transport Commission (Australia)

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

Dangerous Goods Classification	NOT 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
Tetraacetylethylenediamine	C10H16N2O4	10543-57-4	90 - 94 %
Ingredients determined not to be hazardous	Unspecified	Unspecified	Balance %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure		
Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Do not induce vomiting. Get immediate medical advice/attention. Never give anything by mouth to an unconscious person.	
Еуе	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. If eye irritation persists, get medical advice/attention.	
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs, get medical advice/attention.	
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention.	
Advice to Doctor	In all cases of doubt, or when symptoms persist, seek medical attention.	
Medical Conditions Aggravated by Exposure	No information available.	

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	May burn but does not ignite readily.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction.
Fire and Explosion Hazard	Avoid generating dust; Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
	Fire may produce irritating and/or toxic gases, including Carbon monoxide (CO), Nitrous gases (NOx).

Hazardous Products of Combustion	
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may cause pollution.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only 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	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. ELIMINATE all ignition sources (if dust clouds can occur). Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Pick up mechanically. With clean shovel, place material into clean, dry container and cover loosely; move containers from spill area.
Containment	Stop leak if you can do it without risk. Prevent dust cloud. Prevent entry into waterways, sewers, basements or confined areas.
Decontamination	Rinse away residue with water.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Minimise dust generation and accumulation. Avoid breathing dust and contact with eyes, skin and clothing. Do not ingest. Use personal protective equipment as required (see SECTION 8). WARNING: May form combustible dust concentrations in air! Keep away from heat and sources of ignition - No smoking. Take precautionary measures against static discharges.
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from foodstuffs and incompatible materials (see SECTION 10).
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	No specific exposure standards are available for this product. For dusts from solid substances without specific occupational exposure standards: - Safe Work Australia Exposure Standard (Nuisance dusts): 8 hr TWA = 10 mg/m3 (measured as inhalable dust). - New Zealand WES (Particulates not otherwise classified): TWA = 10 mg/m3; TWA = 3 mg/m3 (respirable dust).
Exposure Limits	No Data Available
Biological Limits	No information available.
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.

Personal Protection Equipment	 Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Dust mask/particulate respirator (refer to AS/NZS 1715 & 1716). Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Tightly sealed safety glasses. Hand protection: Handle with gloves. Recommended: Chemical-resistant gloves. Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precaustions	No information available.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash it before reuse. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Powder or granules
Odour	Weak
Colour	White or yellowish
рН	No Data Available
Vapour Pressure	<0 kPa (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	443 °C
Melting Point	147 °C
Freezing Point	No Data Available
Solubility	1.2 g/L in water 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	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	244 °C
Density	0.52 g/cm3
Specific Heat	No Data Available
Molecular Weight	228.25
Net Propellant Weight	No Data Available
Octanol Water Coefficient	log Po/w: -0.09 (23 °C)
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	No information available.
Potential for Dust Explosion	Avoid generating dust; Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Combustible solid; may burn but does not ignite readily.
Reactions That Release Gases or Vapours	Fire/decomposition may produce irritating and/or toxic gases, including Carbon monoxide and Carbon dioxide, Nitrous gases (NOx).
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Avoid contact with metals.
Chemical Stability	The substance is stable under normal storage and handling conditions.
Conditions to Avoid	Avoid generating dust. Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with metals, strong oxidising agents, acids, bases.
Hazardous Decomposition Products	Fire/decomposition may produce irritating and/or toxic gases, including Carbon monoxide and Carbon dioxide, Nitrous gases (NOx).
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	 Acute toxicity: Not classified. Skin corrosion/irritation: Not classified. Eye damage/irritation: Not classified. Respiratory/skin sensitisation: Not classified. Germ cell mutagenicity: Not classified. Carcinogenicity: Not classified. Carcinogenicity: Not classified. STOT (single exposure): Not classified. STOT (repeated exposure): Not classified. Aspiration toxicity: Not classified. *The product is not classified as harmful to human health.
Ingestion	Acute toxicity (Oral): - LD50, Rat: >2,000 mg/kg bw. [Supplier's SDS].
Other	Acute toxicity (Dermal): - LD50, Rabbit: >2,000 mg/kg bw. [Supplier's SDS].
Inhalation	Acute toxicity (Inhalation): - LC50, Rat: >2.08 mg/L (4 h) [Supplier's SDS].
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: - LC50, Fish >500 mg/L (96 h) [Supplier's SDS]. - EC50, Crustacea: >1,000 mg/L (48 h) [Supplier's SDS]. - EC50, Algae/aquatic plants: >1,000 mg/L (72 h) [Supplier's SDS].
Persistence/Degradability	Product is readily biodegradable.
Mobility	No information available.
Environmental Fate	Prevent entry into drains and waterways.
Bioaccumulation Potential	Based on the n-octanol/water partition coefficient, accumulation in organisms is not expected.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION

Land Transport (Australia) ADG Code

ADG Coue	
Proper Shipping Name	Tetraacetylethylenediamine (TAED)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.
Land Transport (Malaysia) ADR Code	
Proper Shipping Name	Tetraacetylethylenediamine (TAED)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand) NZS5433

Proper Shipping Name	Tetraacetylethylenediamine (TAED)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

Proper Shipping Name	Tetraacetylethylenediamine (TAED)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport IMDG Code

Proper Shipping Name	Tetraacetylethylenediamine (TAED)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	Νο
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Tetraacetylethylenediamine (TAED)
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

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

Dangerous Goods Classification

NOT 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)	Not Scheduled

Environmental Protection Authority (New Zealand) Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	Not Hazardous
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National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	234-123-8
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
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes

TEACDI1000, TEACDI1001, TEACDI1002, TEACDI1003, TEACDI1004, TEACDI1005, TEACDI2000, TEACDI2001, TEACDI2002, TEACDI2100, TEACDI2500, TEACDI2700, TEACDI3000, TEACDI3001, TEACDI3500, TEACDI4000, TEACDI4001, TEACDI4500, TEACDI5000, TEACDI8500, TEACDI9000, TEACDI9002, TEACDI9200, TEACDI9201, TEACDI9500

Revision	4
Revision Date	21 Apr 2023
Key/Legend	< Less Than
	> Greater Than
	AICS Australian Inventory of Chemical Substances
	atm Atmosphere
	CAS Chemical Abstracts Service (Registry Number)
	cm ² Square Centimetres CO2 Carbon Dioxide
	COD Chemical Oxygen Demand
	deg C (°C) Degrees Celcius
	EPA (New Zealand) Environmental Protection Authority of New Zealand
	deg F (°F) Degrees Farenheit
	g Grams
	g/cm ³ Grams per Cubic Centimetre g/I Grams per Litre
	HSNO Hazardous Substance and New Organism
	IDLH Immediately Dangerous to Life and Health
	immiscible Liquids are insoluable in each other.
	inHg Inch of Mercury
	inH20 Inch of Water
	K Kelvin
	kg Kilogram kg/m³ Kilograms per Cubic Metre
	Ib Pound
	LC50 LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50%
	(one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.
	LD50 LD stands for Lethal Dose. LD50 is the amount of a material, given all at once, which causes the death of 50% (one
	half) of a group of test animals. Itr or L Litre
	m ³ Cubic Metre
	mbar Millibar
	mg Milligram
	mg/24H Milligrams per 24 Hours
	mg/kg Milligrams per Kilogram
	mg/m³ Milligrams per Cubic Metre
	Misc or Miscible Liquids form one homogeneous liquid phase regardless of the amount of either component present. mm Millimetre
	mmH20 Millimetres of Water
	mPa.s Millipascals per Second
	N/A Not Applicable
	NIOSH National Institute for Occupational Safety and Health
	NOHSC National Occupational Heath and Safety Commission
	OECD Organisation for Economic Co-operation and Development Oz Ounce
	PEL Permissible Exposure Limit
	Pa Pascal
	ppb Parts per Billion
	ppm Parts per Million
	ppm/2h Parts per Million per 2 Hours
	ppm/6h Parts per Million per 6 Hours psi Pounds per Square Inch
	R Rankine
	RCP Reciprocal Calculation Procedure
	STEL Short Term Exposure Limit
	TLV Threshold Limit Value
	tne Tonne
	TWA Time Weighted Average
	ug/24H Micrograms per 24 Hours UN United Nations
	wt Weight