



**SAFETY DATA SHEET**  
**SODIUM TOLYLTRIAZOLE, 50% SOLUTION**  
**REVISION 5, DATE 01 MAR 21**

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Sodium Tolyltriazole, 50% Solution</b>
<b>Other Names</b>	1H-Benzotriazole, 4 (or5)-methly-,sodium salt; TTAS
<b>Uses</b>	Corrosion inhibitor.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	C <sub>7</sub> H <sub>6</sub> N <sub>3</sub> Na
<b>Chemical Name</b>	Tolyltriazole, sodium salt, 50% solution
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
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.*

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
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



## Globally Harmonised System

**Hazard Classification** Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

**Hazard Categories** Acute Toxicity (Oral) - Category 4  
Skin Corrosion/Irritation - Category 1C  
Serious Eye Damage/Irritation - Category 1  
Long-term Hazard To The Aquatic Environment - Category 3

**Pictograms**

**Signal Word** Danger

**Hazard Statements**

<b>H302</b>	Harmful if swallowed.
<b>H314</b>	Causes severe skin burns and eye damage.
<b>H412</b>	Harmful to aquatic life with long lasting effects.

<b>Precautionary Statements</b>	Prevention	<b>P260</b>	Do not breathe mist/vapour/spray.
		<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
		<b>P273</b>	Avoid release to the environment.
	Response	<b>P270</b>	Do not eat, drink or smoke when using this product.
		<b>P303 + P361 + P353</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
		<b>P310</b>	Immediately call a POISON CENTER or doctor.
		<b>P305 + P351 + P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
		<b>P301 + P330 + P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
		<b>P363</b>	Wash contaminated clothing before reuse.
		<b>P304 + P340</b>	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
Storage	<b>P405</b>	Store locked up.	
Disposal	<b>P501</b>	Dispose of contents/container in accordance with local / regional / national / international regulations.	

**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)

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>HSNO Classifications</b>	Health Hazards	<b>6.1D</b>	Substances that are acutely toxic - Harmful
		<b>8.2C</b>	Substances that are corrosive to dermal tissue UN PGIII
		<b>8.3A</b>	Substances that are corrosive to ocular tissue
	Environmental Hazards	<b>9.1C</b>	Substances that are harmful in the aquatic environment

**3. COMPOSITION/INFORMATION ON INGREDIENTS****Ingredients**

Chemical Entity	Formula	CAS Number	Proportion
Tolyltriazole, sodium salt	C7H6N3NA	64665-57-2	49 - 51 %
Sodium hydroxide	NaOH	1310-73-2	<=0.5 %
Water	H2O	7732-18-5	Balance %

**4. FIRST AID MEASURES****Description of necessary measures according to routes of exposure**

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth, then drink a glass of water. Do NOT induce vomiting. Immediately call a Poison Centre or doctor/physician for advice. Never give anything by mouth to an unconscious person.
<b>Eye</b>	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. Immediately call a Poison Centre or doctor/physician for advice.
<b>Skin</b>	IF ON SKIN (or hair): Remove contaminated clothing and shoes immediately. Flush skin and hair with running water for at least 15 minutes. In case of gross contamination, drench contaminated clothing and skin with plenty of water before removing clothes. For minor skin contact, avoid spreading material on unaffected skin. Immediately call a Poison Centre or doctor/physician for advice. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing - Do not use direct mouth-to-mouth method if victim ingested or inhaled the substance; use alternative respiratory method or proper respiratory device. Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Keep victim calm and warm - Obtain immediate medical care. Ensure that attending medical personnel are aware of the identity and nature of the product(s) involved, and take precautions to protect themselves.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out. Avoid getting water inside containers.
<b>Flammability Conditions</b>	Non-combustible; however, following evaporation of aqueous component, residual material can burn if ignited.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction - Do not use water jets.
<b>Fire and Explosion Hazard</b>	Decomposes on heating, emitting toxic fumes. Containers may explode when heated.
<b>Hazardous Products of Combustion</b>	Fire or heat will produce irritating, toxic and/or corrosive gases, including oxides of Carbon, oxides of Nitrogen.
<b>Special Fire Fighting Instructions</b>	Contain runoff from fire control or dilution water - Runoff may be toxic and/or corrosive and may pollute waterways.
<b>Personal Protective Equipment</b>	Liquid-tight chemical protective clothing (splash suit) in combination with self-contained breathing apparatus (SCBA) should be used. Structural firefighter's uniform is NOT effective for this material.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available

Hazchem Code

2X

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation - Ventilate enclosed spaces before entering. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Clean up spills immediately. Do not breathe vapours and prevent contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Absorb with earth, sand or other non-combustible material and transfer to a suitable, properly labelled container for disposal (see SECTION 13).
<b>Containment</b>	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.
<b>Decontamination</b>	No information available.
<b>Environmental Precautionary Measures</b>	Spillages and decontamination runoff should be prevented from entering drains and watercourses. Local authorities should be advised if significant spillages cannot be contained.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Keep unauthorised personnel away. Keep upwind and to higher ground.
<b>Personal Precautionary Measures</b>	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing (see SECTION 8).

**7. HANDLING AND STORAGE**

<b>Handling</b>	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. Do not breathe mist/vapours/spray and prevent contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Keep away from (excessive) heat and sources of ignition - No smoking. Avoid release to the environment.
<b>Storage</b>	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 incompatible materials (see SECTION 10). Store locked up.
<b>Container</b>	Keep in the original container.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>General</b>	No specific exposure standards are available for this product.
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	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.
<b>Personal Protection Equipment</b>	<ul style="list-style-type: none"> <li>- Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Organic vapour/particulate filter respirator, type A-P (refer to AS/NZS 1715 &amp; 1716).</li> <li>- Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Chemical goggles; Face-shield.</li> <li>- Hand protection: Wear protective gloves. Recommended: Elbow-length, impervious gloves.</li> <li>- Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Overalls, splash apron (or equivalent) and rubber boots.</li> </ul>
<b>Special Hazards Precautions</b>	No information available.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Always wash thoroughly after handling chemicals. Remove contaminated clothing and shoes immediately and wash before reuse.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Clear liquid
Odour	Mild
Colour	Yellow to amber
pH	11.5 - 12 (10% solution, at 25 °C)
Vapour Pressure	0.04 mmHg atm (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	108 °C
Melting Point	-8 °C
Freezing Point	No Data Available
Solubility	Miscible with water - Soluble in methanol or acetone
Specific Gravity	1.19
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	No Data Available
Density	No Data Available
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
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	Not applicable.
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	Non-combustible; however, following evaporation of aqueous component, residual material can burn if ignited.
Reactions That Release Gases or Vapours	Fire/decomposition will produce irritating, toxic and/or corrosive gases, including oxides of Carbon, oxides of Nitrogen.
Release of Invisible Flammable Vapours and Gases	No information available.

**10. STABILITY AND REACTIVITY**

<b>General Information</b>	No information available.
<b>Chemical Stability</b>	Stable at room temperature in closed container under normal storage and handling conditions.
<b>Conditions to Avoid</b>	Keep away from (excessive) heat and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with strong oxidising agents, strong acids.
<b>Hazardous Decomposition Products</b>	Fire/decomposition will produce irritating, toxic and/or corrosive gases, including oxides of Carbon, oxides of Nitrogen.
<b>Hazardous Polymerisation</b>	Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: Harmful if swallowed; Can burn mouth, throat and stomach. Effects may range from mild irritation of mucous membranes to severe pneumonitis and destruction of tissue.</li> <li>- Skin corrosion/irritation: Causes severe skin burns; Corrosive.</li> <li>- Eye damage/irritation: Causes serious eye damage; Corrosive.</li> <li>- Respiratory/skin sensitisation: No information available.</li> <li>- Germ cell mutagenicity: No information available.</li> <li>- Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.</li> <li>- Reproductive toxicity: No information available.</li> <li>- STOT (single exposure): Exposure to mist/vapours/spray may cause respiratory irritation.</li> <li>- STOT (repeated exposure): No information available.</li> <li>- Aspiration toxicity: No information available.</li> </ul>
<b>Acute</b>	
<b>Ingestion</b>	Acute toxicity (Oral): COMPONENT: Tolyltriazole, sodium salt (CAS No. 64665-57-2): - LD50, Rat: 640 mg/kg (female); 920 mg/kg (male [Supplier's SDS].
<b>Other</b>	Acute toxicity (Dermal): COMPONENT: Tolyltriazole, sodium salt (CAS No. 64665-57-2): - LD50, Rabbit: >2,000 mg/kg bw [ECHA].
<b>Carcinogen Category</b>	None

**12. ECOLOGICAL INFORMATION**

<b>Ecotoxicity</b>	Aquatic toxicity: - LC50, Fish (Rainbow trout): 23.7 mg/l (96 h) [Supplier's SDS]. - LC50, Fish (Bluegill sunfish): 191.2 mg/l (96 h) [Supplier's SDS]. - EC50, Crustacea (Daphnia magna): 245.7 mg/l (48 h) [Supplier's SDS].
<b>Persistence/Degradability</b>	Readily biodegradable.
<b>Mobility</b>	No information available.
<b>Environmental Fate</b>	Harmful to aquatic life with long lasting effects - Prevent entry into drains and waterways.
<b>Bioaccumulation Potential</b>	No information available.
<b>Environmental Impact</b>	No Data Available

**13. DISPOSAL CONSIDERATIONS**

General Information	Dispose of contents/container in accordance with local/regional/national regulations.
Special Precautions for Land Fill	No information available.

**14. TRANSPORT INFORMATION****Land Transport (Australia)**

ADG Code

Proper Shipping Name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Sodium tolyltriazole solution)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	3267
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

**Land Transport (Malaysia)**

ADR Code

Proper Shipping Name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Tolyltriazole 50% sodium salt)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	3267
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

**Land Transport (New Zealand)**

NZS5433

Proper Shipping Name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Sodium tolyltriazole solution)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
EPG	37 Toxic And/Or Corrosive Substances Non-Combustible
UN Number	3267
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

**Land Transport (United States of America)**

US DOT

Proper Shipping Name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Sodium tolyltriazole solution)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
ERG	153 Substances - Toxic and/or Corrosive (Combustible)

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UN Number	3267
Hazchem	2X
Pack Group	III
Special Provision	No Data Available

**Sea Transport**

IMDG Code

Proper Shipping Name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Sodium tolyltriazole solution)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3267
Hazchem	2X
Pack Group	III
Special Provision	No Data Available
EMS	F-A, S-B
Marine Pollutant	No

**Air Transport**

IATA DGR

Proper Shipping Name	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (Sodium tolyltriazole solution)
Class	8 Corrosive Substances
Subsidiary Risk(s)	No Data Available
UN Number	3267
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)
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**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	HSR002547
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**National/Regional Inventories**

Australia (AIIIC)	Listed
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Canada (DSL)	Listed
Canada (NDSL)	Not Listed
China (IECSC)	Listed
Europe (EINECS)	265-004-9
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Listed
Korea (KECI)	Listed
Malaysia (EHS Register)	Not Listed
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Listed
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Listed
USA (TSCA)	Listed

## 16. OTHER INFORMATION

Related Product Codes	TOLYL1000, TOLYL1001, TOLYL1002, TOLYL1100, TOLYL1200, TOLYL1300, TOLYL1400, TOLYL12300, TOLYL12400, TOLYL12500, TOLYL12600
Revision	5
Revision Date	01 Mar 2021
Key/Legend	<p>&lt; Less Than &gt; Greater Than  <b>AICS</b> Australian Inventory of Chemical Substances  <b>atm</b> Atmosphere  <b>CAS</b> Chemical Abstracts Service (Registry Number)  <b>cm<sup>2</sup></b> Square Centimetres  <b>CO<sub>2</sub></b> Carbon Dioxide  <b>COD</b> Chemical Oxygen Demand  <b>deg C (°C)</b> Degrees Celcius  <b>EPA (New Zealand)</b> Environmental Protection Authority of New Zealand  <b>deg F (°F)</b> Degrees Fahrenheit  <b>g</b> Grams  <b>g/cm<sup>3</sup></b> Grams per Cubic Centimetre  <b>g/l</b> Grams per Litre  <b>HSNO</b> Hazardous Substance and New Organism  <b>IDLH</b> Immediately Dangerous to Life and Health  <b>immiscible</b> Liquids are insoluable in each other.  <b>inHg</b> Inch of Mercury  <b>inH<sub>2</sub>O</b> Inch of Water  <b>K</b> Kelvin  <b>kg</b> Kilogram  <b>kg/m<sup>3</sup></b> Kilograms per Cubic Metre  <b>lb</b> Pound  <b>LC50</b> LC stands for lethal concentration. LC50 is the concentration of a material in air which causes the death of 50%</p>

(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.

**ltr** or **L** Litre

**m<sup>3</sup>** Cubic Metre

**mbar** Millibar

**mg** Milligram

**mg/24H** Milligrams per 24 Hours

**mg/kg** Milligrams per Kilogram

**mg/m<sup>3</sup>** Milligrams per Cubic Metre

**Misc** or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

**mm** Millimetre

**mmH<sub>2</sub>O** Millimetres of Water

**mPa.s** Millipascals per Second

**N/A** Not Applicable

**NIOSH** National Institute for Occupational Safety and Health

**NOHSC** National Occupational Health 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