

# MAXAM RIOSHOCK Tube

MAXAM Australia

Chemwatch Hazard Alert Code: 3

Chemwatch: 5152-12

Issue Date: 10/04/2015

Version No: 4.1.1.1

Print Date: 08/04/2016

Safety Data Sheet according to WHS and ADG requirements

Initial Date: **Not Available**

S.GHS.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

Product name	MAXAM RIOSHOCK Tube
Synonyms	Shock Tube
Proper shipping name	ARTICLES, EXPLOSIVE, N.O.S. (contains cyclotetramethylenetetranitramine)
Other means of identification	Not Available

### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	For general blasting purposes, means of initiation of non electric detonators.
--------------------------	--

### Details of the supplier of the safety data sheet

Registered company name	MAXAM Australia
Address	141 Boundary Road QLD Oxley 4075 Australia
Telephone	+61 7 3717 1818
Fax	+61 7 3717 1888
Website	<a href="https://www.maxam-corp.com.au">https://www.maxam-corp.com.au</a>
Email	licensing.au@maxam.net

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 833 111 (24hrs)
Other emergency telephone numbers	Not Available

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS.** According to the WHS Regulations and the ADG Code.

#### CHEMWATCH HAZARD RATINGS

	Min	Max
Flammability	1	2
Toxicity	2	3
Body Contact	2	3
Reactivity	3	4
Chronic	0	0

0 = Minimum  
1 = Low  
2 = Moderate  
3 = High  
4 = Extreme


Poisons Schedule	Not Applicable
Classification <sup>[1]</sup>	Explosive Division 1.4, Acute Toxicity (Dermal) Category 4, Eye Irritation Category 2A, Acute Aquatic Hazard Category 3

Continued...

MAXAM RIOSHOCK Tube

**Legend:** 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

**Label elements**

<b>GHS label elements</b>	
---------------------------	---

<b>SIGNAL WORD</b>	<b>WARNING</b>
--------------------	----------------

**Hazard statement(s)**

<b>H204</b>	Fire or projection hazard.
<b>H312</b>	Harmful in contact with skin.
<b>H319</b>	Causes serious eye irritation.
<b>H402</b>	Harmful to aquatic life

**Precautionary statement(s) Prevention**

<b>P210</b>	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
<b>P250</b>	Do not subject to grinding/shock/sources of friction.
<b>P280</b>	Wear protective gloves/protective clothing/eye protection/face protection.
<b>P240</b>	Ground/bond container and receiving equipment.

**Precautionary statement(s) Response**

<b>P363</b>	Wash contaminated clothing before reuse.
<b>P370+P380</b>	In case of fire: Evacuate area.
<b>P372</b>	Explosion risk in case of fire.
<b>P374</b>	Fight fire with normal precautions from a reasonable distance.

**Precautionary statement(s) Storage**

<b>P401</b>	Store according to local regulations for explosives.
-------------	--

**Precautionary statement(s) Disposal**

<b>P501</b>	Dispose of contents/container in accordance with local regulations.
-------------	---

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
2691-41-0	>60	<u>cyclotetramethylenetetranitramine</u>
7429-90-5	10-60	<u>aluminium</u>

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
--------------------	--

## MAXAM RIOSHOCK Tube

<b>Skin Contact</b>	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If dust is inhaled, remove from contaminated area.</li> <li>▶ Encourage patient to blow nose to ensure clear passage of breathing.</li> <li>▶ If irritation or discomfort persists seek medical attention.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Transport to hospital or doctor without delay.</li> </ul>

**Indication of any immediate medical attention and special treatment needed**

Treat symptomatically.

**SECTION 5 FIREFIGHTING MEASURES****Extinguishing media**

- ▶ **WARNING:** Deliver water spray or fog from a safe distance only.

[Fires involving Shock Tube only (no detonators or other explosives attached to the Shock Tube or in the area) may be fought using the same methods used for plastic fires.

**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.</li> <li>▶ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.</li> </ul>
-----------------------------	--

**Advice for firefighters**

<b>Fire Fighting</b>	<p><b>WARNING: EXPLOSIVE MATERIALS / ARTICLES PRESENT!</b></p> <ul style="list-style-type: none"> <li>▶ Evacuate all personnel and move upwind.</li> <li>▶ Prevent re-entry.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May detonate and burning material may be propelled from fire.</li> </ul> <p>[If Detonators or other explosives are present, DO NOT FIGHT THE FIRE. ISOLATE THE AREA.</p>
<b>Fire/Explosion Hazard</b>	<p><b>NOTE:</b> Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke. Combustible Decomposes on heating and produces; carbon dioxide (CO<sub>2</sub>) carbon monoxide (CO) Shock Tube does not detonate, but will cause a detonator to detonate if it is properly attached to the end of the tube. May function if exposed to shock, heat, impact, sparks or friction. When Shock Tube functions, a deflagration travels rapidly through the tube. The tube wall normally remains intact, although some breaching of the tube wall may occur.</p>

**SECTION 6 ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

<b>Minor Spills</b>	<p><b>WARNING!: EXPLOSIVE.</b></p> <p>BLAST and/or PROJECTION and/or FIRE HAZARD</p> <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid inhalation of the material and avoid contact with eyes and skin.</li> <li>▶ Wear impervious gloves and safety glasses.</li> </ul>
<b>Major Spills</b>	<p><b>WARNING!: EXPLOSIVE.</b></p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ May be violently or explosively reactive.</li> </ul>

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 HANDLING AND STORAGE****Precautions for safe handling**

Continued...

**MAXAM RIOSHOCK Tube**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Handle gently. Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Avoid all personal contact, including inhalation.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Store cases in a well ventilated magazine licenced for the appropriate Class, Division and Compatibility Group.</li> <li>▶ Rotate stock to prevent ageing. Use on FIFO (first in-first out) basis.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ All packaging for Class 1 Goods shall be in accordance with the requirements of the relevant Code for the transport of Dangerous Goods.</li> <li>▶ Class 1 is unique in that the type of packaging used frequently has a very decisive effect on the hazard and therefore on the assignment to a particular division</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contact with other explosives, pyrotechnics, solvents, adhesives, paints, cleaners and unauthorized metals, plastics, packing equipment and materials.</li> <li>▶ Avoid contamination with acids, alkalis, reducing agents, amines and phosphorus.</li> <li>▶ Dangerous goods of other classes.</li> </ul> <p>Remove all ignition sources.</p>

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**


Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	aluminium	Aluminium (metal dust) / Aluminium (welding fumes) (as Al) / Aluminium, pyro powders (as Al)	10 mg/m3 / 5 mg/m3	Not Available	Not Available	Not Available

**EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
cyclotetramethylenetetranitramine	Cyclotetramethylene tetranitramine; (HMX)	19 mg/m3	210 mg/m3	1300 mg/m3
aluminium	Aluminum	3 mg/m3	33 mg/m3	200 mg/m3

Ingredient	Original IDLH	Revised IDLH
cyclotetramethylenetetranitramine	Not Available	Not Available
aluminium	Not Available	Not Available

**Exposure controls**

<b>Appropriate engineering controls</b>	<p>Engineering controls for explosive articles are designed to reduce or eliminate fragmentation and/or blast effects either by suppression of the source of detonation or by protection at the exposed location, or both. Barricades, shields, contained detonation chambers, and "zero quantity-distance (Q-D)" magazines are examples of engineering controls.</p> <p>Engineering controls are designed and tested in a rigorous fashion. The construction of the engineering control must be carefully duplicated in field applications to assure it will function properly.</p> <p>Metal dusts must be collected at the source of generation as they are potentially explosive.</p> <ul style="list-style-type: none"> <li>▶ Avoid ignition sources.</li> <li>▶ Good housekeeping practices must be maintained.</li> <li>▶ Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions.</li> </ul>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>
<b>Body protection</b>	See Other protection below

<b>Other protection</b>	No special equipment required due to the physical form of the product.
<b>Thermal hazards</b>	Not Available

### Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ANSI Z88 or national equivalent)

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	P1 Air-line*	- -	PAPR-P1 -
up to 50 x ES	Air-line**	P2	PAPR-P2
up to 100 x ES	-	P3	-
		Air-line*	-
100+ x ES	-	Air-line**	PAPR-P3

\* - Negative pressure demand \*\* - Continuous flow

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Clear or coloured hollow plastic tubing (orange, yellow, red) with a dust coating of HMX and aluminum powder on the interior wall of the inner tubing. The coating mixture, by weight is between 10 and 20 mg/m. The coating mixture is silver and has no detectable odour. May function if exposed to shock, heat, impact, sparks, or friction.		
<b>Physical state</b>	Solid	<b>Relative density (Water = 1)</b>	Not Available
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	Not Available
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	Not Available	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	Not Available	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	Not Available	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	Not Available	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Applicable
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Not Available	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	Not Available	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Presence of shock and friction</li> <li>▶ Presence of heat source and ignition source</li> <li>▶ Product is considered stable under normal handling conditions.</li> <li>▶ Stable under normal storage conditions.</li> <li>▶ Hazardous polymerization will not occur.</li> </ul> Avoid contact with other chemicals.

MAXAM RIOSHOCK Tube

	Shock Tube may function if exposed to static discharge and impact.
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

<b>Inhaled</b>	Generated dust may be discomforting   Inhalation of the fine aluminium dust may be connected to pulmonary fibrosis.
<b>Ingestion</b>	Not normally a hazard due to physical form of product.
<b>Skin Contact</b>	Skin contact with the material may be harmful; systemic effects may result following absorption. Open cuts, abraded or irritated skin should not be exposed to this material   Molten plastic may cause thermal burns and may remain hot for some time due to the low thermal conductivity of the plastic polymer.
<b>Eye</b>	This material can cause eye irritation and damage in some persons. Generated dust may be discomforting
<b>Chronic</b>	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung.

MAXAM RIOSHOCK Tube	TOXICITY	IRRITATION
	Not Available	Not Available
cyclotetramethylenetetranitramine	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg <sup>[2]</sup>	Skin (rabbit) 500mg Drz. Mild
	Oral (rat) LD50: 6490 mg/kg <sup>[2]</sup>	
aluminium	TOXICITY	IRRITATION
	Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Not Available

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.\* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

<b>CYCLOTETRAMETHYLENETETRANITRAMINE</b>	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
<b>ALUMINIUM</b>	No significant acute toxicological data identified in literature search.

<b>Acute Toxicity</b>	✓	<b>Carcinogenicity</b>	⊘
<b>Skin Irritation/Corrosion</b>	⊘	<b>Reproductivity</b>	⊘
<b>Serious Eye Damage/Irritation</b>	✓	<b>STOT - Single Exposure</b>	⊘
<b>Respiratory or Skin sensitisation</b>	⊘	<b>STOT - Repeated Exposure</b>	⊘
<b>Mutagenicity</b>	⊘	<b>Aspiration Hazard</b>	⊘

**Legend:** ✗ – Data available but does not fill the criteria for classification  
 ✓ – Data required to make classification available  
 ⊘ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
cyclotetramethylenetetranitramine	EC50	48	Crustacea	>32mg/L	4

Continued...

MAXAM RIOSHOCK Tube

cyclotetramethylenetetranitramine	LC50	96	Fish	>15mg/L	2
cyclotetramethylenetetranitramine	NOEC	96	Crustacea	1.9mg/L	2
cyclotetramethylenetetranitramine	EC50	96	Algae or other aquatic plants	>32mg/L	2
cyclotetramethylenetetranitramine	EC50	96	Algae or other aquatic plants	>6.5164mg/L	2
aluminium	BCF	360	Algae or other aquatic plants	9mg/L	4
aluminium	EC50	120	Fish	0.000051mg/L	5
aluminium	LC50	96	Fish	0.078-0.108mg/L	2
aluminium	EC50	48	Crustacea	0.7364mg/L	2
aluminium	EC50	96	Algae or other aquatic plants	0.0054mg/L	2
aluminium	NOEC	72	Algae or other aquatic plants	>=0.004mg/L	2

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms.

**DO NOT discharge into sewer or waterways.**

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
cyclotetramethylenetetranitramine	HIGH	HIGH

**Bioaccumulative potential**

Ingredient	Bioaccumulation
cyclotetramethylenetetranitramine	LOW (LogKOW = 0.8242)

**Mobility in soil**

Ingredient	Mobility
cyclotetramethylenetetranitramine	LOW (KOC = 1853)

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Explosives which are surplus, deteriorated or considered unsafe for transport, storage or use shall be destroyed and the statutory authorities shall be notified.</li> <li>▶ Explosives must not be thrown away, buried, discarded or placed with garbage.</li> <li>▶ This material may be disposed of by burning or detonation but the operation must be performed under the control of a person competent in the destruction of explosives.</li> </ul> <p>Disposal by detonation:</p> <ul style="list-style-type: none"> <li>▶ The explosives to be destroyed must be placed in direct contact with fresh priming charge in a hole which is at least 0.6 metre deep and then adequately stemmed.</li> </ul>
-------------------------------------	--

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	E

MAXAM RIOSHOCK Tube

**Land transport (ADG)**

<b>UN number</b>	0349
<b>Packing group</b>	Not Applicable
<b>UN proper shipping name</b>	ARTICLES, EXPLOSIVE, N.O.S. (contains cyclotetramethylenetetranitramine)
<b>Environmental hazard</b>	Not Applicable
<b>Transport hazard class(es)</b>	Class : 1.4S Subrisk : Not Applicable
<b>Special precautions for user</b>	Special provisions : 178 274 Limited quantity : 0

**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	0349
<b>Packing group</b>	Not Applicable
<b>UN proper shipping name</b>	Articles, explosive, n.o.s. * (contains cyclotetramethylenetetranitramine)
<b>Environmental hazard</b>	Not Applicable
<b>Transport hazard class(es)</b>	ICAO/IATA Class : 1.4S ICAO / IATA Subrisk : Not Applicable ERG Code : 3L
<b>Special precautions for user</b>	Special provisions : A62 Cargo Only Packing Instructions : 101 Cargo Only Maximum Qty / Pack : 100 kg Passenger and Cargo Packing Instructions : 101 Passenger and Cargo Maximum Qty / Pack : 25 kg Passenger and Cargo Limited Quantity Packing Instructions : Forbidden Passenger and Cargo Limited Maximum Qty / Pack : Forbidden

**Sea transport (IMDG-Code / GGVSee)**

<b>UN number</b>	0349
<b>Packing group</b>	Not Applicable
<b>UN proper shipping name</b>	ARTICLES, EXPLOSIVE, N.O.S. (contains cyclotetramethylenetetranitramine)
<b>Environmental hazard</b>	Not Applicable
<b>Transport hazard class(es)</b>	IMDG Class : 1.4S IMDG Subrisk : Not Applicable
<b>Special precautions for user</b>	EMS Number : F-B, S-X Special provisions : 178 274 Limited Quantities : 0

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**SECTION 15 REGULATORY INFORMATION**

**Safety, health and environmental regulations / legislation specific for the substance or mixture**

**CYCLOTETRAMETHYLENETETRANITRAMINE(2691-41-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)	International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft
---	--

Continued...



**ALUMINIUM(7429-90-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (cyclotetramethylenetetranitramine; aluminium)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (cyclotetramethylenetetranitramine; aluminium)
Korea - KECL	N (cyclotetramethylenetetranitramine)
New Zealand - NZIoC	Y
Philippines - PICCS	N (cyclotetramethylenetetranitramine)
USA - TSCA	Y
<b>Legend:</b>	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

**SECTION 16 OTHER INFORMATION****Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net](http://www.chemwatch.net)

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average

PC—STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.