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**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

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**1.1 Product identifier****Product name**            **MAC 6611 4G/LT GOLD SOLUTION****Synonyms**                6611 4G/LT GOLD SOLUTION**1.2 Uses and uses advised against****Uses**                      METAL INDUSTRY • SURFACE FINISHING**1.3 Details of the supplier of the product****Supplier name**           **DUBOIS CHEMICALS AUSTRALIA PTY LIMITED****Address**                   305 Frankston Dandenong Rd, Dandenong South, VIC, 3175, AUSTRALIA**Telephone**                (03) 9768 3860**Email**                     [sales@duboischchemicals.com.au](mailto:sales@duboischchemicals.com.au)**Website**                  <http://duboischchemicals.com.au/>**1.4 Emergency telephone numbers****Emergency**              13 11 26 (Poisons Information Centre)

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**2. HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture**

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**Physical Hazards**

Not classified as a Physical Hazard

**Health Hazards**

Acute Toxicity: Oral: Category 4

Acute Toxicity: Skin: Category 4

Serious Eye Damage / Eye Irritation: Category 2A

Contact with acids liberates very toxic gas.

**Environmental Hazards**

Aquatic Toxicity (Chronic): Category 3

**2.2 GHS Label elements****Signal word**              **WARNING****Pictograms****Hazard statements**

AUH032                      Contact with acids liberates very toxic gas.

H302                         Harmful if swallowed.

H312                         Harmful in contact with skin.

H319                         Causes serious eye irritation.

H412                         Harmful to aquatic life with long lasting effects.

**PRODUCT NAME MAC 6611 4G/LT GOLD SOLUTION****Prevention statements**

P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

**Response statements**

P302 + P352 IF ON SKIN: Wash with plenty of water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTRE or doctor/physician if you feel unwell.  
P321 Specific treatment is advised - see first aid instructions.  
P330 Rinse mouth.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P362 + P364 Take off contaminated clothing and wash it before reuse.

**Storage statements**

None allocated.

**Disposal statements**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

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**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

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**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
CITRIC ACID	77-92-9	201-069-1	5%
POTASSIUM DICYANOAUATE	13967-50-5	237-748-4	0.4%
WATER	7732-18-5	231-791-2	Remainder
POTASSIUM CITRATE	6100-05-6	231-905-0	10%

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**4. FIRST AID MEASURES**

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**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Acute: Irritating to the eyes and skin. Delayed: No information available.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

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**5. FIRE FIGHTING MEASURES**

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**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

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**6. ACCIDENTAL RELEASE MEASURES**

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**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

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**7. HANDLING AND STORAGE**

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**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

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

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

**7.3 Specific end uses**

No information provided.

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**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

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**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cyanides (as CN)	SWA [AUS]	--	5	--	--
Cyanides and cyanide salts	SWA [Proposed]	--	1	--	--
Cyanides and cyanide salts (peak limitation)	SWA [Proposed]	--	5 (Peak)	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PRODUCT NAME MAC 6611 4G/LT GOLD SOLUTION**

**PPE**

<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls. In a laboratory situation, wear a laboratory coat.
<b>Respiratory</b>	Not required under normal conditions of use.



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**9. PHYSICAL AND CHEMICAL PROPERTIES**

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**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	CLEAR LIQUID
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	> 100°C
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Relative density</b>	NOT AVAILABLE
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

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**10. STABILITY AND REACTIVITY**

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**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and alkalis (e.g. sodium hydroxide).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

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**11. TOXICOLOGICAL INFORMATION**

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**11.1 Information on toxicological effects**

**PRODUCT NAME MAC 6611 4G/LT GOLD SOLUTION**

**Acute toxicity** Acute oral exposure may result in irritation of the mouth, throat, oesophagus and gastrointestinal tract. Harmful if swallowed or in contact with skin.

**Information available for the ingredients:**

Ingredient	Oral LD50	Dermal LD50	Inhalation LC50
CITRIC ACID	3000 mg/kg (rat)	> 2000 mg/kg (rat)	--

**Skin** Contact may result in irritation, redness, rash and dermatitis. May result in burns with prolonged contact.

**Eye** Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Over exposure may result in irritation of the nose and throat, with coughing.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure. Adverse effects are generally associated with single exposure.

**Aspiration** Not classified as causing aspiration.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Harmful to aquatic life with long lasting effects.

**12.2 Persistence and degradability**

Citric acid is readily biodegradable and does not persist in the environment.

**12.3 Bioaccumulative potential**

Based on the low Log Kow and widespread natural occurrence, citric acid is not expected to have potential for bioaccumulation (REACH).

**12.4 Mobility in soil**

Citric acid is expected to have very high mobility in soil.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Waste disposal** Neutralise with lime, anion exchanger or similar. For small amounts, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION****NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None allocated.	None allocated.	None allocated.
<b>14.2 Proper Shipping Name</b>	None allocated.	None allocated.	None allocated.
<b>14.3 Transport hazard class</b>	None allocated.	None allocated.	None allocated.
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

Hazchem code None allocated.

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**15. REGULATORY INFORMATION**

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

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7).

**Inventory listings** **AUSTRALIA: AIIIC (Australian Inventory of Industrial Chemicals)**  
All components are listed on AIIIC, or are exempt.  
**EUROPE: EINECS (European Inventory of Existing Chemical Substances)**  
All components are listed on EINECS, or are exempt.

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**16. OTHER INFORMATION**

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**Additional information** EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, 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.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; 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 report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (highly acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**PRODUCT NAME   MAC 6611 4G/LT GOLD SOLUTION**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT 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, RMT 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.

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