

# Kleanium Circuit Board Cleaner Aerosol

## Material Safety Data Sheet

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Chemtools Kleanium Circuit Board Cleaner Aerosol  
**Product Type:** Flux solvent for industrial use.  
**Part Numbers:** CT-CBC -300  
**Company Address:** Chemtools Pty., Ltd.,  
PO Box 463, Emu Plains, NSW 2750  
Ph: 1300 738 250  
**EMERGENCY PHONE:** Australia: Poisons Information Centre 13 1126  
International: Infotrac (708) 918 1900

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components	CAS #	%	HSIS TWA	HSIS STEL
propan-2-ol	67-63-0	30 - 60	400ppm 983mg/m <sup>3</sup>	500ppm 1,230mg/m <sup>3</sup>
ethanol	107-98-2	30 - 60	1000ppm 1,880 mg/m <sup>3</sup>	
carbon dioxide	124-38-9	<10	5,000ppm 9,000mg/m <sup>3</sup>	30,000ppm 54,000mg/m <sup>3</sup>

### 3. HAZARDS IDENTIFICATION

**Hazard Classification:** Hazardous Material, Dangerous Goods according to the criteria of SafeWork Australia and the ADG-7 code)  
**Risk Phrases:** R11 – Highly flammable  
R22 – Harmful if swallowed  
R36/38 – Irritating to eyes and skin.  
R67 – Vapours may cause drowsiness and dizziness.  
**Safety Phrases:** S20 – When using do not eat or drink  
S21 – When using do not smoke  
S51 – Use only in well ventilated areas.  
S24/25 – Avoid contact with skin and eyes.  
**Relevant routes of exposure:** Skin, Inhalation, Eyes  
**Potential Health Effects**  
**Inhalation:** May cause respiratory tract irritation. High concentrations of vapours may cause headache, fatigue, drowsiness and dizziness.  
**Skin contact:** May cause allergic skin reaction. May cause skin irritation. Product has a defatting effect on skin.  
**Eye contact:** Prolonged contact may cause dryness of skin.  
**Ingestion:** Contact with eyes will cause irritation.  
Harmful. May cause lung damage if swallowed.

### 4. FIRST AID MEASURES

**Inhalation:** Remove to fresh air. If symptoms develop and persist, get medical attention.  
**Skin contact:** Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur.  
**Eye contact:** Check for and remove any contact lenses. Immediately flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time. Get medical attention.  
**Ingestion:** Do not induce vomiting. Rinse mouth thoroughly. Loosen any tight clothing. Keep individual calm.  
Obtain medical attention.

### 5. FIRE-FIGHTING MEASURES

**Flash point:** -4°C Cleveland closed cup  
**Autoignition temperature:** 425°C  
**Flammable/Explosive limits-lower %:** 2%  
**Flammable/Explosive limits-upper %:** 12%  
**Extinguishing media:** Foam, dry chemical or carbon dioxide.  
**Special fire fighting procedures:** None  
**Unusual fire or explosion hazards:** None  
**Hazardous combustion products:** Oxides of carbon. Irritating organic vapours. Keep run-off water out of sewers and water sources.  
**Hazchem Code:** 2[Y]E



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### 6. ACCIDENTAL RELEASE MEASURES

<b>Environmental precautions:</b>	Extinguish all ignition sources. Ventilate well. Use approved respirator if air contamination is above accepted level. Prevent product from entering drains or open waters.
<b>Clean-up methods:</b>	Soak up with inert absorbent. Store in a partly filled, closed container until disposal.

### 7. HANDLING AND STORAGE

<b>Handling:</b>	Avoid contact with eyes, skin and clothing. Avoid breathing vapour and mist. Wash thoroughly after handling.
<b>Storage:</b>	For safe storage, store at or below 38°C (100°F). Keep in a cool, well-ventilated area away from heat, sparks and open flame. Keep container tightly closed until ready for use.
<b>Incompatible products:</b>	Refer to Section 10.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b>Engineering controls:</b>	No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.
<b>Respiratory protection:</b>	Use NIOSH approved respirator if there is potential to exceed exposure limit(s).
<b>Skin protection:</b>	Use impermeable gloves and protective clothing as necessary to prevent skin contact. Neoprene gloves. butyl rubber gloves. Natural rubber gloves.
<b>Eye/face protection:</b>	Safety goggles or safety glasses with side shields.

See Section 2 for exposure limits.

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid.
<b>Colour:</b>	Clear, colourless.
<b>Odour:</b>	alcoholic.
<b>pH:</b>	Not available
<b>Boiling point/range:</b>	>80°C.
<b>Melting point/range:</b>	Not available
<b>Specific gravity:</b>	0.78 at 20°C.
<b>Vapour density:</b>	>1
<b>Evaporation rate:</b>	Not available
<b>Solubility in water:</b>	Insoluble.

### 10. STABILITY AND REACTIVITY

<b>Stability:</b>	Stable.
<b>Hazardous polymerization:</b>	Will not occur.
<b>Hazardous decomposition products:</b>	Oxides of carbon.
<b>Incompatibility:</b>	Strong oxidizers. Strong reducing agents.
<b>Conditions to avoid:</b>	See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

### 11. TOXICOLOGICAL INFORMATION

<b>Product toxicity data:</b>	
Isopropyl alcohol	Oral: LD <sub>50</sub> 5,045 mg/Kg (rat). Skin: LD <sub>50</sub> 12.8g/Kg (rabbit) Inhalation LC <sub>50</sub> : 16,000ppm/8hr (rat) Investigated as a tumorigen, mutagen, and reproductive effector. Carcinogenic effects: IARC Category 3
Ethanol	Acute Oral Toxicity LD <sub>50</sub> (rat) 5500 mg/kg Acute Oral Toxicity LD <sub>50</sub> (rabbit) 4935 mg/kg Acute Inhalation Toxicity LC <sub>50</sub> (rat) 1600 ppm/8hrs Acute Inhalation Toxicity LC <sub>50</sub> (rat) 45000 ppm/2hrs Inhalation Lowest Toxic Concentration (human) 400 ppm Eyes (human): Irritant. There is some indication that this chemical may cause an allergic response in some individuals. No evidence of carcinogenicity was seen in mice. Not regulated as a carcinogen by the USA NTP, WHO IARC monographs, USA OSHA, or USA ACGIH.

### 12. ECOLOGICAL INFORMATION

**Ecological information:**

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Isopropyl alcohol  
Fish : Low toxicity: LC/EC/IC<sub>50</sub> > 100 mg/l  
Aquatic Invertebrates: Low toxicity: LC/EC/IC<sub>50</sub> > 1000 mg/l  
Algae: Expected to have low toxicity: LC/EC/IC<sub>50</sub> > 1000 mg/l  
Microorganisms: Low toxicity: LC/EC/IC<sub>50</sub> > 1000 mg/l  
Mobility: Dissolves in water. If product enters soil, it will be highly mobile and may contaminate groundwater.  
Persistence/degradability: Readily biodegradable meeting the 10 day window criterion. Oxidises rapidly by photo-chemical reactions in air.  
Bioaccumulation: Not expected to bioaccumulate significantly.

Ethanol  
Biodegradable will not accumulate. Avoid contaminating waterways.  
Will evaporate quickly.  
Oil/Water Partition Co-efficient: log P (octanol/water) = 0.66

#### WATER POLLUTION FACTORS:

Theoretical Oxygen Demand (ThOD): 1.82  
Biological Oxygen Demand (BOD<sub>5</sub>): 0.293  
Chemical Oxygen Demand (COD): 1.54

#### BIOLOGICAL EFFECTS:

Toxicity Threshold (cell multiplication inhibition test) –  
Bacteria 650mg/L  
Algae 550mg/L  
Green Algae 15mg/L  
Protozoa : 202-1620mg/L

### 13. DISPOSAL CONSIDERATIONS

**Recommended method of disposal:** Dispose of according to Federal, State and local governmental regulations.

### 14. TRANSPORT INFORMATION

**Domestic (Land) ADG:**  
**Proper shipping name:** AEROSOLS  
**UN No.:** 1950  
**Hazard class or division:** 2[Y]E  
**Packing group:** None allocated



**IMDG:**  
**Proper shipping name:** AEROSOLS  
**Identification No.:** UN1950  
**Hazard class or division:** 2.1  
**Packing group:** None allocated  
**Marine Pollutant:** No



**International Air Transportation (ICAO/IATA):**  
**Proper shipping name:** AEROSOLS  
**Hazard class or division:** 2.1  
**Identification number:** 1950  
**Packing group:** None allocated

### 15. REGULATORY INFORMATION

**Poisons Schedule (SUSDP):** S5 in containers of 5L or less.  
**ADG Code:** Class 3 Dangerous Good – Flammable Liquid  
**NOHSC:** Hazardous.  
**GHS Pictograms:**



### 16. OTHER INFORMATION

#### Abbreviations/Acronyms:

NOHSC – National Occupational Health and Safety Commission.  
NIOSH – National Institute of Occupational Health and Safety.  
ACGIH – American Conference of Government Industrial Hygienists.  
HSIS – Hazardous Substances Information System  
SUSDP – Standard for the Uniform Scheduling of Drugs and Poisons.

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TWA – Time Weighted Average  
TLV – Threshold Limit Value.  
STEL – Short Term Exposure Limit  
PEL – Permissible Exposure Limit  
SUSDP – Standard for the Uniform Scheduling of Drugs & Poisons.  
ADG – Australian Dangerous Goods  
IARC – International Agency for Research on Cancer

Date of MSDS: November 2012

## DISCLAIMER:

The information contained within this MSDS applies only to the Chemtools product to which the sheet relates. The information provided is based on our best knowledge at the time of issue.

The information contained within this MSDS is believed to be accurate and is given in good faith. However, no warranty is made, either expressed or implied, regarding its accuracy or any liability arising out of the use of the information herein or the product supplied.

When used in other preparations, formulations, or in mixtures, it is necessary to ascertain whether the classifications of the hazards have changed. The attention of the user is drawn to the possibility of creating other hazards when the product is used for purpose other than that for which it was recommended. In such cases, a reassessment may be necessary and should be made by the user.

This safety data sheet should only be used and reproduced in order that the necessary measures are taken relating to the protection of health and safety at work.

It is the responsibility of the handlers to pass on the totality of the information contained within this document to any subsequent person(s) who will come in to contact with, handle or use this product in any way.

They should check the adequacy of the information provided within this MSDS before passing it on to their customers/staff.

End of MSDS

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