

# Chemtools Developer Aerosol

## Material Safety Data Sheet

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Chemtools Developer Aerosol  
**Part Numbers:** CT-DVP300  
**Product Type:** Supplied as an aerosol pack. Contents under PRESSURE.  
**Company Address:** Chemtools Pty. Ltd., PO Box463, 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
ethanol	64-17-5	30-60		
propylene glycol monomethyl ether - alpha isomer	107-98-2	10-30		
filler		10-30		
hydrocarbon propellant	68476-85-7.	10-30		

### 3. HAZARDS IDENTIFICATION

**Hazard Classification:** Hazardous Substance, Dangerous Goods. According to the criteria of Safe Work Australia and the ADG

**Risk Phrases:**  
R12 - Extremely flammable.  
R19 - May form explosive peroxides.  
R36/38 - Irritating to eyes and skin.  
R44 - Risk of explosion if heated under confinement.  
R20/21/22? - Inhalation, skin contact and/or ingestion may produce health damage\*.  
R33? - Cumulative effects may result following exposure\*.  
R37? - May produce discomfort of the respiratory system\*.  
R66? - Repeated exposure potentially causes skin dryness and cracking\*.  
R67? - Vapours potentially cause drowsiness and dizziness\*.

**Safety Phrases:**  
S16 - Keep away from sources of ignition. No smoking.  
S23 - Do not breathe gas/fumes/vapour/spray.  
S24 - Avoid contact with skin.  
S25 - Avoid contact with eyes.  
S37 - Wear suitable gloves.  
S39 - Wear eye/face protection.  
S18 - Handle and open container with care.  
S51 - Use only in well ventilated areas.  
S09 - Keep container in a well ventilated place.  
S40 - To clean the floor and all objects contaminated by this material, use water.  
S07 - Keep container tightly closed.  
S26 - In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.  
S46 - If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).  
S60 - This material and its container must be disposed of as hazardous waste.

**Relevant routes of exposure:**

**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. Prolonged contact may cause dryness of skin.

**Eye contact:**

Contact with eyes will cause irritation.

**Ingestion:**

Harmful. Not considered a normal route of entry.

If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. Avoid giving milk or oils. Avoid giving alcohol.

### 4. FIRST AID MEASURES

**Inhalation:**

Remove to fresh air. If symptoms develop and persist, get medical attention. Lay patient down. Keep warm and rested. Prosthesis such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a dema resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.



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<b>Skin contact:</b>	Wash with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Remove any adhering solids with industrial skin cleansing cream. DO NOT use solvents. Seek medical attention in the event of irritation. Get medical attention if symptoms occur.
<b>Eye contact:</b>	Check for and remove any contact lenses. Immediately flush with copious amounts of fresh running water for at least 15 minutes, holding eyelids open all the time. Seek medical attention immediately. Loosen any tight clothing. Keep individual calm. Obtain medical attention.

### NOTES TO PHYSICIAN

#### For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> 50 mm Hg) should be intubated.
- Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.  
Treat symptomatically.

#### For acute or short term repeated exposures to ethanol:

- Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyridoxine, Vitamins C and K).
- Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.
- Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine).
- Decontamination is probably unnecessary more than 1 hour after a single observed ingestion.  
Cathartics and charcoal may be given but are probably not effective in single ingestions.

### 5. FIRE-FIGHTING MEASURES

<b>Flash point:</b>	<b>-81°C</b>
<b>Extinguishing media:</b>	<ul style="list-style-type: none"><li>• Alcohol stable foam.</li><li>• Dry chemical powder.</li><li>• BCF (where regulations permit).</li><li>• Carbon dioxide.</li></ul> SMALL FIRE: • Water spray, dry chemical or CO <sub>2</sub> LARGE FIRE: • Water spray or fog. FOR FIRES INVOLVING MANY GAS CYLINDERS:
<b>Special fire fighting procedures:</b>	<ul style="list-style-type: none"><li>• To stop the flow of gas, specifically trained personnel may inert the atmosphere to reduce oxygen levels thus allowing the capping of leaking container(s).</li><li>• Reduce the rate of flow and inject an inert gas, if possible, before completely stopping the flow to prevent flashback.</li><li>• DO NOT extinguish the fire until the supply is shut off otherwise an explosive re-ignition may occur.</li><li>• If the fire is extinguished and the flow of gas continues, used increased ventilation to prevent build-up, of explosive atmosphere.</li><li>• Alert Fire Brigade and tell them location and nature of hazard.</li><li>• May be violently or explosively reactive.</li><li>• Wear breathing apparatus plus protective gloves.</li><li>• Prevent, by any means available, spillage from entering drains or water course.</li></ul>

<b>Unusual fire or explosion hazards:</b>	<ul style="list-style-type: none"><li>• Liquid and vapour are highly flammable.</li><li>• Severe fire hazard when exposed to heat or flame.</li><li>• Vapour forms an explosive mixture with air.</li><li>• Severe explosion hazard, in the form of vapour, when exposed to flame or spark. Combustion products include: carbon monoxide (CO). Combustible. Will burn if ignited., carbon dioxide (CO<sub>2</sub>), sulfur oxides (SO<sub>x</sub>), other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.</li></ul>
<b>Hazardous combustion products:</b>	carbon dioxide (CO <sub>2</sub> ). sulfur oxides (SO <sub>x</sub> ). Other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.
<b>Hazchem Code:</b>	2[Y]E

### 6. ACCIDENTAL RELEASE MEASURES

[info@chemtools.com.au](mailto:info@chemtools.com.au)  
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**Environmental precautions:** Extinguish all ignition sources. Ventilate well. Use approved respirator if air contamination is above accepted level. Prevent product from entering drains or open waters. Avoid contact with spilled or released material. Immediately remove all contaminated clothing. Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area.

Use appropriate containment (of product and fire fighting water) to avoid environmental contamination. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers. Attempt to disperse the vapour or to direct its flow to a safe location for example by using fog sprays.

Take precautionary measures against static discharge. Ensure electrical continuity by bonding and grounding (earthing) all equipment.

**Clean-up methods:** For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

### MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- Shut off all possible sources of ignition and increase ventilation.

### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.

## 7. HANDLING AND STORAGE

### Handling:

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

### Storage:

- Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can.
- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Keep containers securely sealed. Contents under pressure.

### Incompatible products:

Refer to Section 10.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Engineering controls:

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and / or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. **Respiratory protection:** Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

### Skin protection:

No special equipment needed when handling small quantities.

OTHERWISE:

- Overalls.
- Skin cleansing cream.
- Eyewash unit.
- Do not spray on hot surfaces.
- The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.



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• Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.  
BREThERICK: Handbook of Reactive Chemical Hazards.

### Eye/face protection:

Safety goggles\* or safety glasses with side shields. - \*Chemical goggles.  
Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens 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. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent].

### Respirator

• Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

See Section 2 for exposure limits.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid. Gas.
Colour:	Clear, colourless.
Odour:	Paraffinic
pH:	Not applicable
Boiling point/range:	78°C.
Melting point/range:	Not available
Specific gravity:	<1
Vapour density:	>1
Evaporation rate:	Fast
Vapour Pressure (kPa)	5.7 @20 C
Volatile Component (%vol)	>60
Solubility in water:	Immiscible
ethanol log Kow (Sangster 1997):	- 0.3

Note that all of the monopropylene glycol ethers may exist in two isomeric forms, alpha or beta. The alpha form, which is thermodynamically favoured during synthesis, consists of a secondary alcohol configuration.

Supplied as an aerosol pack. Contents under PRESSURE.

White highly flammable liquid aerosol with sweet solvent odour; mixes with water.

## 10. STABILITY AND REACTIVITY

### Stability:

CONDITIONS CONTRIBUTING TO INSTABILITY

- Elevated temperatures.
- Presence of open flame.
- Product is considered stable.

### Hazardous polymerization:

Will not occur.

### Hazardous decomposition products:

Not Available

### Incompatibility:

- Glycol ethers may form peroxides under certain conditions; the potential for peroxide formation is enhanced when these substances are used in processes such as distillation where they are concentrated or even evaporated to near-dryness storage under a nitrogen atmosphere is recommended to minimise the possible formation of highly reactive peroxide
- Nitrogen blanketing is recommended if transported in containers at temperatures within 15 deg C of the flash-point or at and above the flash-point - large containers may first need to be purged and inerted with nitrogen prior to loading
- In the presence of strong bases or the salts of strong bases, at elevated temperatures, the potential exists for runaway reactions.
- Contact with aluminium should be avoided; release of hydrogen gas may result- glycol ethers will corrode scratched surfaces.

Propylene glycol monomethyl ether:

- reacts violently with strong oxidisers, alkalis
- is incompatible with aliphatic amines, boranes, sulfuric acid, nitric acid, perchloric acid, caustics, isocyanates.
- Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.
- Avoid strong base

### Conditions to avoid:

See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).

## 11. TOXICOLOGICAL INFORMATION

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### Product toxicity data:

ACUTE HEALTH EFFECTS	Irritating to eyes, respiratory system and skin. Vapours may cause dizziness or suffocation. Vapours may cause drowsiness and dizziness. Inhalation, skin contact and/or ingestion may produce health damage*. * (limited evidence).
CHRONIC HEALTH EFFECTS	Cumulative effects may result following exposure*. Repeated exposure may cause skin dryness and cracking. Cumulative effects may result following exposure*. * (limited evidence).
TOXICITY AND IRRITATION	For propylene glycol ethers (PGEs): Typical propylene glycol ethers include propylene glycol n-butyl ether (PnB); dipropylene glycol n-butyl ether (DPnB); dipropylene glycol methyl ether acetate (DPMA); tripropylene glycol methyl ether (TPM). Testing of a wide variety of propylene glycol ethers has shown that propylene glycol-based ethers are less toxic than some ethers of the ethylene series. The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling the epidermis. Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a nonallergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

### 12. ECOLOGICAL INFORMATION

This material and its container must be disposed of as hazardous waste.

#### Ecotoxicity

Ingredient	Persistence:	Persistence: Air	Bioaccumulation	Mobility
Chemtools Developer Aerosol CT-DVP300	No Data Available	No Data Available		
ethanol	LOW	MED	LOW	HIGH
propylene glycol monomethyl ether - alpha isomer	LOW	LOW	LOW	HIGH
hydrocarbon propellant	No Data Available	No Data Available		

### 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.:** UN1950  
**Hazard class or division:** 2.1  
**Packing group:** None

#### IMDG:

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

#### International Air Transportation (ICAO/IATA):

**Proper shipping name:** AEROSOLS, FLAMMABLE  
**Hazard class or division:** SP63  
**Identification number:** 1950  
**Packing group:** 203

### 15. REGULATORY INFORMATION

Regulations for ingredients ethanol (CAS: 64-17-5) is found on the following regulatory lists;  
"Australia Exposure Standards", "Australia Hazardous Substances",  
"Australia High Volume Industrial Chemical List (HVICL)",

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"Australia Illicit Drug Reagents/Essential Chemicals - Category III", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Fragrance Association (IFRA) Survey: Transparency List", "World Anti-Doping Agency - Prohibited List - World Anti-Doping Code - Substances Prohibited in Particular Sports", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Competition (German)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (French)", "World Anti-Doping Agency - The 2009 Prohibited List World Anti-Doping Code - Substances Prohibited in Particular Sports (Korean)" propylene glycol monomethyl ether - alpha isomer (CAS: 107-98-2) is found on the following regulatory lists; "Australia Exposure Standards", "Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Fragrance Association (IFRA) Survey: Transparency List" hydrocarbon propellant (CAS: 68476-85-7, 68476-86-8) is found on the following regulatory lists; "Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)" No data for Dy-Mark Flawchek Step 4 Developer Aerosol (CW: 117341)

### 16. OTHER INFORMATION

**Abbreviations/Acronyms:**

- ACGIH – American Conference of Government Industrial Hygienists.
- ADG – Australian Dangerous Goods.
- HSIS - Hazardous Substances Information System.
- IARC – International Agency for Research on Cancer.
- NIOSH – National Institute of Occupational Health and Safety.
- NOHSC – National Occupational Health and Safety Commission.
- PEL – Permissible Exposure Limit.
- STEL – Short Term Exposure Limit.
- SUSDP – Standard for the Uniform Scheduling of Drugs and Poisons.
- TLV – Threshold Limit Value.
- TWA – Time Weighted Average.

**Date of MSDS:** May 2013

#### INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
hydrocarbon propellant	68476-85-7, 68476-86-8

#### 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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