# Vacsol Azure (conc 5)
## Material Safety Data Sheet

## 1. Identification of Substance and Company

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|---|---|
| **Product Name:** | Vacsol Azure (Conc. 5) |
| **Other Names:** | This MSDS covers Vacsol Conc 5 with different variations namely : Azure AZR5 & AZURE M, Azure AZR5P (includes IPBC),AZURE AZR5T& AZURE T (includes tracer) |
| **Product Code:** | TNZ-AZR-CONC, TNZ-AZRM-CONC |
| **HSNO Approval:** | HSR007640-HSR007651 |
| **Proper Shipping Name** | Flammable liquid, toxic, n.o.s. (white spirits, butyl oxitol) |
| **UN Number:** | 1992 |
| **Packaging Group** | III |
| **Dangerous Goods Class** | 3, 6.1 |
| **Hazchem Code:** | 3WE |
| **Uses:** | Raw material for industrial use. |
| **Note:** | To be labelled as "**Marine Pollutant**" |

### *Company Details*

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|---|---|---|---|
| **Company:** | **Arch Wood Protection (NZ) Ltd** | | |
| **Address:** | 265 James Fletcher Dr<br>PO Box 22-148<br>Otahuhu, AUCKLAND | 8 Penn Place<br>PO Box 6124<br>CHRISTCHURCH | NZFRI Campus<br>PO Box 6123<br>ROTORUA |
| **Telephone Number:** | (09) 276 3646 | (03) 348 5379 | (07) 350 1680 |

**Emergency Telephone Number: 0800-623-000**

## 2. Hazard Identification

### *Hazard Classifications*

This product is an approved hazardous substance under the HSNO act (ERMA approval code HSR007640-HSR007651) and is classified as follows:

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| 3.1C | flammable liquid |
| 6.1C | acutely toxic by dermal contact. |
| 6.1D | acutely toxic by ingestion and inhalation. |
| 6.1E | acutely toxic by aspiration. |
| 6.3B | mild skin irritant. |
| 6.4A | eye irritant. |
| 6.5A | respiratory sensitiser. |
| 6.5B | contact sensitiser |
| 6.9B | suspected human target organ toxicant |
| 9.1A | extremely toxic to the aquatic environment |
| 9.3C | toxic to terrestrial vertebrates |
| 9.4A | highly toxic to terrestrial invertebrates |

SYMBOLS
**DANGER**

### *Other classifications*

**N/A**

### *Hazard and Precautionary Phrases*

**Hazard**

Flammable liquid and vapour.
Toxic in contact with skin.
Harmful if swallowed.
Harmful if inhaled.
Causes mild skin irritation.
Causes eye irritation.
Causes serious eye irritation.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause an allergic skin reaction.
May cause damage to organs
Very toxic to aquatic life with long lasting effects.
Harmful to terrestrial vertebrates.

**Precautionary**

Read label before use. Keep out of reach of children.
Keep away from ignition sources. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Use only outdoors or in a well-ventilated area.
Store in a well-ventilated place. Keep cool.
Wear protective gloves/eye/face protection.
Wash hands thoroughly after handling.
Do not eat, drink or smoke when using this product."
Avoid breathing vapours.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.
Collect spillage.

Further precautionary statements can be found in Section 4 – First Aid.

## 3. Composition/Information on Ingredients

| Chemical Entity | CAS No | Class for ingredient(s) | Conc (%) m/v |
|---|---|---|---|
| Tebuconazole | 107534-96-3 | 6.1D (oral), 6.9B (oral), 9.1A (algal), 9.1B (fish, crustacean), 9.3C | <5% |
| Propiconazole | 60207-90-0 | 6.1D (oral), 6.4A, 6.9B (oral), 9.1A (fish, crustacean, algal), 9.3C | <5% |
| Permethrin | 52645-53-1 | 6.1C (oral), 6.3B, 6.4A, 6.5A, 6.5B, 6.9B (oral), 6.9B (inhalation), 9.1A (fish, crustacean), 9.3B, 9.4A | <4% |
| IPBC** | 55406-53-6 | 6.1C (inhalation), 6.1D (oral), 6.3B, 6.4A, 6.5B, 6.9B, 9.1A (fish, crustacean, algal), 9.3C | <3% |
| Tracer compound‡ | Proprietary | 6.1E (oral), 6.3A, 6.4A, 9.1A | <1% |
| Butyl Oxitol | 111-76-2 | 3.1D, 6.1C (dermal), 6.1D (inhalation, oral), 6.3B, 6.4A, 9.3B | 20-40% |
| Vacsol WR concentrate | proprietary | mixture | <20% |
| White Spirits* | 64742-82-1* | 3.1C, 6.1E, 6.3B, 9.1B | balance |

*White spirits is a transferred substance under HSNO under the name of ”low aromatic hydrocarbon solvent, medium flashpoint”.
** IPBC may be added to control surface mould. This mixture is called Azure AZR5P.
‡ Tracer compound may be added to Vacsol Azure conc 5 to indicate penetration levels These mixtures are called AZURE AZR5T or AZURE T.

This is a commercial product whose exact ratio of components may vary. Trace quantities of impurities are also likely.

## 4. First Aid

### *General Information*

Arch Wood Protection have an Emergency Contact Phone Number: 0800 623 000
IF exposed or concerned: Get medical advice.
You should call the National Poisons Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service)

Recommended first aid facilities: Ready access to running water is required. Accessible eyewash is recommended. Emergency shower, hand wash, soap. CPR training, oxygen mask. Rest bed

### *Exposure*

**Swallowed**

IF SWALLOWED: Do NOT induce vomiting. Rinse mouth. If vomiting occurs, place victim face downwards, with the head turned to the side and lower than the hips to prevent vomit entering the lungs.

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| **Eye contact** | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. If eye irritation persists: Get medical advice. |
| **Skin contact** | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/physician. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. |
| **Inhaled** | IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. |

***Advice to Doctor***

Treat symptomatically.

## 5. Firefighting Measures

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| **Fire and explosion hazards** | This product is a flammable liquid, The vapours may form an explosive mixture in air which may be ignited by many sources such as pilot lights, open flames, electrical motors, switches and static electricity. |
| **Suitable Extinguishing Substances** | Fires may be extinguished using foam, dry chemical or carbon dioxide. Water streams should not be used. Low velocity fog can be used to suppress fire or to keep nearby containers cool. |
| **Unsuitable extinguishing substances** | Water streams |
| **Protective Equipment** | Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and preferably goggles. |
| **Danger caused by material, its combustion products or gases produced** | On burning, toxic products of combustion, including carbon monoxide, may be emitted. |
| **Further Fire Fighting Advice** | If safe to do so, remove nearby containers from path of fire. |
| **Hazchem Code** | 3WE |

## 6. Accidental Release Measures

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| **Containment** | If greater than **100L** is stored, secondary containment is required. Emergency plans to manage any potential spills must be in place. Prevent spillage from spreading or entering soil, waterways or drains. |
| **Emergency procedures** | Shut off all possible sources of ignition.<br>Contain - prevent run off into drains and waterways. .<br>Wear suitable protective equipment to prevent skin, eye and respiratory exposure.<br>Restrict access to contaminated area.<br>Recover free liquid.<br>Contain using sand or absorbent material.<br>Increase ventilation |
| **Clean-up method** | Absorb remainder with sand, earth or vermiculite). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services |
| **Disposal** | Dispose of only in accord with all regulations (Resource Management Act). Approval should be sought from the regional authority. Refer to District plan. |
| **Precautions** | Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. |
| **Note** | This product is toxic to fish. |

## 7. Handling And Storage

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| **Storage** | Store unopened in the original containers locked up in a secure compound.<br>Containers (and outer packaging) must bear the prescribed labelling, including the Hazchem code, UN number, flammability warning and name of contents.<br>MSDS sheet must be available.<br>Store away from incompatible materials described in Section 10.<br>Store in a cool, dry, area with sufficient natural/mechanical ventilation to avoid airborne hazards.<br>Store away from sources of heat or ignition and oxidising agents. |
| **Handling** | This substance must be in control of an **approved handler**.<br>Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols. |

## 8. Exposure Controls/Personal Protection Equipment

### *Workplace Exposure Standards*

There are no WES or TLV values available for this mixture. However, given that the main constituents are pesticides with potential acute and chronic effects, workplace exposures should be kept as low as reasonably achievable by the use of engineering controls and correct personal protective equipment.

| | Ingredient | WES- TWA ($mg.m^{-3}$) | WES- STEL |
|---|---|---|---|
| NZ Workplace Exposure Standards (OSH, 2002). | Permethrin | Data unavailable<br>Manufacturer recommends: 3 mg/day | Data unavailable |
| | White spirits | 525 $mg.m^{-3}$ (100ppm) | Data unavailable |
| | Paraffin wax | 2 $mg.m^{-3}$ | 2 $mg.m^{-3}$ |

### *Engineering Controls*

Processes should be designed in such a way as to isolate employees from source of release and to minimise employee exposures. Use in an area with sufficient natural or mechanical ventilation to avoid airborne exposure hazards. Local exhaust (extract) ventilation, such as a spray booth, is the preferred method. In confined spaces, volatile solvent vapours are heavier than air – prevent concentration build-up in hollows or sumps. Do NOT enter confined spaces where vapour may have collected.
**Keep product away from waterways.**

### *Personal Protective Equipment*

**Eyes**

Observe good work practices.
Avoid contact with eyes. Use safety glasses and or chemical splash goggles.

**Skin**

Avoid repeated or prolonged skin contact. Wear overalls with long sleeves, rubber boots and impervious protective gloves (e.g. nitrile rubber, neoprene, PVA, PVC, or NBR), impervious apron, and a face shield when handling the product. Care must be taken to prevent the insides of clothing from becoming contaminated.

**Respiratory**

If risk of airborne hazard exists, wear SAA approved respirator (air purifying type). SAA approved respirator (supplied air type) may be required in special circumstances. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order.

**General**

Always wash hands before smoking, eating, drinking or using the toilet.

## 9. Physical And Chemical Properties

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|---|---|
| **Appearance** | Amber coloured clear liquid. |
| **Odour** | Characteristic petroleum odour |
| **pH** | Not applicable |
| **Vapour pressure** | 10mmHg @ 20°C for white spirits |
| **Boiling point** | > 149°C |
| **Softening/melting point** | Not applicable |
| **Solubility in water** | negligible |
| **Specific gravity or density** | 0.85 g/ml @ 20°C |
| **Flash point** | 39.5°C |
| **Upper and lower flammable limits** | No data for mixture |
| **Auto ignition temperature** | No data for mixture |

## 10. Stability And Reactivity

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| **Stability** | Stable - unlikely to react/decompose under normal conditions. Liquid is flammable. |
| **Conditions to be avoided** | No particular conditions to be avoided |

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| **Incompatible materials** | Oxidising agents, ignition sources. |
| **Hazardous decomposition products** | May emit acrid and toxic fumes of carbon, nitrogen oxides and sulphur oxides when heated to decomposition. |
| **Hazardous reactions** | No specific hazards. |

## 11. Toxicological Information

***Summary***

No specific toxicological data is available for this product. Where available, toxicological data has been researched and data for the mixture calculated. The results of these calculations are presented below. The product is considered to have the following toxicity:

**Acute effects:** Ingestion of mixture may result in vomiting and aspiration of solvents into the respiratory system with mild to severe pulmonary injury and possibly death. Liquid is an eye irritant. Liquid has a degreasing action on the skin. Can be absorbed through the skin with resultant systemic toxic effects. Vapour is irritating to mucous membranes and the respiratory tract. Inhalation if vapour can result in headaches, dizziness and possible nausea. Inhalation of high concentrations can produce central nervous system depression.

**Chronic effects:** Evidence indicates that repeated or prolonged exposure to solvents could result in peripheral and central neuropathy (nervous system damage). Repeated or prolonged skin contact can cause severe dermatitis. Not classified as a carcinogen.

***Supporting Data***

| | | |
|---|---|---|
| **Acute** | **Oral** | No data for mixture is available. Using the $LD_{50}$'s for the ingredients, the calculated $LD_{50}$ (oral, rat) for the mixture is between 300 and 2000 mg/kg. Data considered includes: Propiconazole 1517 mg/kg, Tebuconazole 1700 mg/kg, Permethrin 1479 mg/kg, tracer: 4920mg/kg (rat), White Spirit >5000 mg/kg, Butyl Oxitol 300 mg/kg However the solvent is considered an acute oral toxicant by aspiration. |
| | **Dermal** | No data for mixture is available. Using $LD_{50}$'s for ingredients, the calculated $LD_{50}$ (dermal, rat) for the mixture is between 200 and 1000 mg/kg. Data considered includes: Propiconazole >4000 mg/kg, Tebuconazole >5000 mg/kg, Permethrin 1750 mg/kg, Butyl Oxitol 210 mg/kg |
| | **Inhaled** | No data for mixture is available. Using $LC_{50}$'s for ingredients, the calculated $LC_{50}$ (inhalation, rat) for the mixture is between 2 and 10 $mg/m^3$/4h. Data considered includes: Propiconazole 5800 $mg/m^3$/4h, Tebuconazole 800 $mg/m^3$/4h, Permethrin 485 $mg/m^3$/4h, Butyl oxitol 2.21 mg/L. |
| | **Eye** | No data for mixture is available. The mixture is not considered to be an eye irritant. |
| | **Skin** | The mixture is considered to be a skin irritant, because some of the ingredients present are considered skin irritants in more concentrated form.. |
| **Chronic** | **Sensitisation** | The mixture is considered to be a contact and respiratory sensitizer, because at least one of the ingredients present in greater than 0.1% is known to be a contact sensitizer or respiratory sensitizer. |
| | **Mutagenicity** | No data for mixture is available. No ingredient present at concentrations > 0.1% is considered a mutagen |
| | **Carcinogenicity** | No data for mixture is available. No ingredient present at concentrations > 0.1% is considered a carcinogen |
| | **Reproductive/ Developmental** | No data for mixture is available. No ingredient present at concentrations > 0.1% is considered a reproductive or developmental toxicant or have any effects on or via lactation. |
| | **Systemic** | The mixture is considered to be a suspected target organ toxicant, because at least one of the ingredients present in greater than 1% is suspected to be a target organ toxicant. |
| | **Aggravation of existing conditions** | None known. |

## 12. Ecological Data

***Summary***

No specific data is available for this product. Where available, ecotoxicological data has been researched and data for the mixture calculated. The results of these calculations are presented below.

### *Supporting Data*

| | |
|---|---|
| **Aquatic** | No data for mixture is available. Using $EC_{50}$'s for ingredients, the calculated $EC_{50}$ for the mixture is < 1 mg/L. Data considered includes: Tebuconazole: 0.1444 mg ai/l (Frond number, Lemna gibba (algae)) , 4.4 mg/l (96hr, Rainbow trout), 4 mg/l (48hr, Daphnia magna), Propiconazole: 0.83 mg/l 996hr, Rainbow trout), 0.5-1.4 mg/l (Mysid shrimp), 0.00022 mg/l (Chlamydomonas noctigama), Permethrin 0.0001 mg/L (96hr, rainbow trout), 0.00055 mg/l (48hr, water flea). |
| **Bioaccumulation** | No data for mixture is available. No evidence of bioaccumulation. |
| **Degradability** | No data for mixture is available. No evidence of persistance in the environment. |
| **Soil** | No data available for the mixture. ERMA has not classified the mixture as ecotoxic in the soil environment. The soil toxicity value for the mixture is ≥ 100 mg/kg. |
| **Terrestrial Vertebrate** | No data available for the mixture. ERMA has not classified the mixture as ecotoxic towards terrestrial vertebrates. |
| **Terrestrial Invertebrate** | The mixture has been classified by ERMA as very ecotoxic to terrestrial vertebrates. The calculated invertebrate ecotoxicity value for the mixture is < 2 µg/bee. Data considered includes: 0.024 µg/bee for permethrin. |
| **Biocidal** | This product is intended to be used as a wood preservative. |

## 13. Disposal Considerations

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| **Restrictions** | There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents |
| **Disposal method** | Do not dispose of residue and solutions that cannot be reused to sewer. This substance is a marine pollutant. Dispose of in accordance with district plan. |
| **Contaminated Packaging** | Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar. |

## 14. Transport Information

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). The mixture is considered a hazardous substance for transport.

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|---|---|---|---|
| **UN Number** | 1992 | Proper Shipping Name | Flammable liquid, toxic, n.o.s. (white spirits, butyl oxitol) |
| **Class(es)** | 3, 6.1 | Packing group | III |
| **Precautions** | Marine Pollutant | HAZCHEM code | 3WE |

## 15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval codes: HSR007640-HSR007651.

### *Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)*

Key workplace requirements are:

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| MSDS | To be available within 10 minutes in workplaces storing greater tan 1L. |
| Labelling | No removal of labels and/or decanting of product into other containers can occur. |
| Emergency plan | Detailed Emergency Management plan required if > 100L is stored. |
| Approved handler | An approved handler is required for this substance. |
| Tracking | Not required |
| Bunding & secondary containment | Required if > 100L is stored. |
| Signage | Required if > 100L is stored in any one location. (ecotoxic, toxic, flammable) |
| Location Test Certificate | Required if more than 500L (closed containers) or 250L (open) is stored in any one location. |
| Flammable zone | Must be established if storing >100 L (closed containers), >25 L (decanting), >5 L (open occasionally), >1 L (in use), is stored in any one location. |
| Fire extinguisher | If > 500L present. |

### *Other Legislation*

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health, Safety in Employment Act and Regulations, local Council Rules and Regional Council Plans.

## 16. Other Information

### *Abbreviations*

| | |
|---|---|
| **Approval Code** | Approval: HSR007640-HSR007651, ERMA. www.ermanz.govt.nz |
| **CAS Number** | Unique Chemical Abstracts Service Registry Number |
| **Ceiling** | Ceiling Exposure Value: The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time. |
| **Controls Matrix** | List of default controls linking regulation numbers to Matrix code (e.g. T1, I16). |
| **$EC_{50}$** | Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species) |
| **ERMA** | Environmental Risk Management Authority |
| **HAZCHEM Code** | Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters |
| **HSNO** | Hazardous Substances and New Organisms (Act and Regulations) |
| **IARC** | International Agency for Research on Cancer |
| **LEL** | Lower Explosive Limit |
| **$LD_{50}$** | Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats). |
| **$LC_{50}$** | Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats) |
| **MSDS** | Material Safety Data Sheet (or Safety Data Sheet) |
| **OSH** | The Occupational Safety and Health Service of the Department of Labour (NZ) |
| **STEL** | Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded |
| **TWA** | Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours) |
| **UEL** | Upper Explosive Limit |
| **UN Number** | United Nations Number |
| **WES** | Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed in a work day. |

### *References*

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|---|---|
| **Data** | Unless otherwise stated data comes from the ERMA HSNO chemical classification information database (CCID) http://www.ermanz.govt.nz/hs/compliance/chemicals.html . |
| **ERMA Transfer Gazettes** | Classifications and controls assigned for specific ingredients (consolidated gazette, 2004) |
| **Controls Matrix** | Part of the ERMA New Zealand User Guide to the HSNO Control Regulations |
| **WES 2002** | The NZ Workplace Exposure Standards Effective from 2002, published by OSH and available on their web site – www.osh.dol.govt.nz. |
| **Other References:** | ChemIDplus, Ingredients MSDS's |

### *Disclaimer*

This MSDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The MSDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the MSDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely HSNO classifications, are based on our experience, ERMA Guidelines and international classifications. This MSDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the MSDS author, email info@datachem.co.nz or phone: ***(09) 940 30 80.***

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