armacell engineered foams

THE MAKERS OF Armaflex®

**Product Name** **ARMAFLEX 520 M&O ADHESIVE**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

| | |
|---|---|
| **Supplier Name** | **ARMACELL AUSTRALIA PTY LTD** |
| **Address** | 13 - 17 Nathan Road, Dandenong, Victoria, AUSTRALIA, 3175 |
| **Telephone** | (03) 8710 5999 |
| **Fax** | (03) 8710 5900 |
| **Emergency** | (03) 8710 5999 |
| **Web Site** | http://www.armacell.com.au/ |
| **Synonym(s)** | 520 M&O ADHESIVE |
| **Use(s)** | GLUING AND JOINING OF ARMAFLEX FOAM RUBBER INSULATION |
| **SDS Date** | 09 Sep 2010 |

## 2. HAZARDS IDENTIFICATION

**CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA**

**RISK PHRASES**

| | |
|---|---|
| R11 | Highly flammable. |
| R36 | Irritating to eyes. |
| R65 | Harmful: May cause lung damage if swallowed. |
| R66 | Repeated exposure may cause skin dryness or cracking. |
| R67 | Vapours may cause drowsiness and dizziness. |

**SAFETY PHRASES**

| | |
|---|---|
| S16 | Keep away from sources of ignition - No smoking. |
| S26 | In case of contact with eyes, rinse immediately with plenty of water and seek medical advice |
| S33 | Take precautionary measures against static discharges. |
| S45 | In case of accident or if you feel unwell seek medical advice immediately (show the label where possible). |
| S53 | Avoid exposure - obtain special instructions before use. |

**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

| | | | | | |
|---|---|---|---|---|---|
| **UN No.** | 1133 | **DG Class** | 3 | **Subsidiary Risk(s)** | None Allocated |
| **Packing Group** | II | **Hazchem Code** | 3YE | | |

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

| Ingredient | Formula | CAS No. | Content |
|---|---|---|---|
| SOLVENT NAPHTHA | Not Available | 92062-15-2 | 40-50% |
| ETHYL ACETATE | C4-H8-O2 | 141-78-6 | 15-25% |
| ACETONE | C3-H6-O | 67-64-1 | 10-15% |
| METHYL ETHYL KETONE (MEK) | C4-H8-O | 78-93-3 | 3-7% |
| ISOPROPYL ALCOHOL | C3-H8-O | 67-63-0 | 1-5% |
| ZINC OXIDE | Zn-O | 1314-13-2 | <0.25% |

## 4. 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 Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**Advice to Doctor** Treat symptomatically.

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

## 5. FIRE FIGHTING MEASURES

**Flammability** Highly flammable. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Vapour may form explosive mixtures with air. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones etc. when handling. Earth containers when dispensing fluids.

**Fire and Explosion** 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.

**Extinguishing** Dry agent, carbon dioxide or foam. Prevent contamination of drains or waterways.

**Hazchem Code** 3YE

## 6. ACCIDENTAL RELEASE MEASURES

**Spillage** Contact emergency services where appropriate. Use personal protective equipment. Clear area of all unprotected personnel. Ventilate area where possible. Contain spillage, then cover / absorb spill with non-combustible absorbant material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

## 7. STORAGE AND HANDLING

**Storage** Store in a cool, dry, well ventilated area, preferably flammables store, removed from direct sunlight, heat or ignition sources, oxidising agents, acids and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate fire protection and ventilation systems.

**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.

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

**Exposure Stds**

| Ingredient | Reference | TWA | | STEL | |
|---|---|---|---|---|---|
| Acetone | SWA (AUS) | 500 ppm | 1185 mg/m3 | 1000 ppm | 2375 mg/m3 |
| Ethyl acetate | SWA (AUS) | 200 ppm | 720 mg/m3 | 400 ppm | 1440 mg/m3 |
| Isopropyl alcohol | SWA (AUS) | 400 ppm | 983 mg/m3 | 500 ppm | 1230 mg/m3 |
| Methyl ethyl ketone (MEK) | SWA (AUS) | 150 ppm | 445 mg/m3 | 300 ppm | 890 mg/m3 |
| Zinc oxide (dust) | SWA (AUS) | -- | 10 mg/m3 | -- | -- |

**Biological Limits**

| Ingredient | Reference | Determinant | Sampling Time | BEI |
|---|---|---|---|---|
| ACETONE | ACGIH BEI | Acetone in urine | End of shift | 50 mg/L |
| METHYL ETHYL KETONE (MEK) | ACGIH BEI | MEK in urine | End of shift | 2 mg/L |

**Engineering Controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

**PPE** Wear splash-proof goggles, neoprene or nitrile gloves and coveralls. Where an inhalation risk exists, wear: a Type A (Organic vapour) respirator. At high vapour levels, wear: an Air-line respirator.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance** | CLEAR YELLOW LIQUID | **Solubility (water)** | SOLUBLE |
| **Odour** | SOLVENT ODOUR | **Specific Gravity** | 0.9 |
| **pH** | NOT AVAILABLE | **% Volatiles** | 100 % |
| **Vapour Pressure** | NOT AVAILABLE | **Flammability** | HIGHLY FLAMMABLE |
| **Vapour Density** | NOT AVAILABLE | **Flash Point** | -20°C (Acetone) |
| **Boiling Point** | 100°C | **Upper Explosion Limit** | NOT AVAILABLE |
| **Melting Point** | NOT AVAILABLE | **Lower Explosion Limit** | NOT AVAILABLE |
| **Evaporation Rate** | NOT AVAILABLE | | |

## 10. STABILITY AND REACTIVITY

**Chemical Stability** Stable under recommended conditions of storage.

**Conditions to Avoid** Avoid heat, sparks, open flames and other ignition sources.

**Material to Avoid** Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), heat and ignition sources.

**Hazardous Decomposition Products** May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition.

**Hazardous Reactions** Polymerization is not expected to occur.

## 11. TOXICOLOGICAL INFORMATION

**Health Hazard Summary** Moderate toxicity - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Chronic exposure may result in central nervous system (CNS) damage.

**Eye** Irritant. Contact may result in irritation, lacrimation, pain and redness.

**Inhalation** Irritant. Over exposure may result in irritation of the nose and throat, coughing and headache. High level exposure may result in nausea, dizziness and drowsiness.

**Skin** Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis. May be absorbed through skin with harmful effects.

**Ingestion** Moderate toxicity. Ingestion may result in nausea, vomiting, abdominal pain, diarrhoea, dizziness and drowsiness. Aspiration may result in chemical pneumonitis and pulmonary oedema.

**Toxicity Data**

ETHYL ACETATE (141-78-6)
- LC50 (Inhalation): 1600 ppm/8hrs (rat)
- LCLo (Inhalation): 77 mg/m3/1hr (guinea pig)
- LD50 (Ingestion): 4100 mg/kg (mouse)
- LD50 (Intraperitoneal): 709 mg/kg (mouse)
- LD50 (Subcutaneous): 3000 mg/kg (guinea pig)
- TCLo (Inhalation): 400 ppm (human)

ACETONE (67-64-1)
- LC50 (Inhalation): 44000 mg/m3/4 hours (mouse)
- LCLo (Inhalation): 1600 ppm/4 hours (rat)
- LD50 (Ingestion): 3000 mg/kg (mouse)
- LD50 (Intraperitoneal): 1297 mg/kg (mouse)
- LD50 (Intravenous): 5500 mg/kg (rat)
- LD50 (Skin): > 9400 uL/kg (guinea pig)
- LDLo (Ingestion): 8000 mg/kg (dog)

LDLo (Intraperitoneal): 500 mg/kg (rat)
LDLo (Intravenous): 1576 mg/kg (rabbit)
LDLo (Skin): 20 mL/kg (rabbit)
LDLo (Subcutaneous): 5000 mg/kg (guinea pig/dog)
TCLo (Inhalation): 500 ppm (human)
TDLo (Ingestion): 2857 mg/kg (man)
METHYL ETHYL KETONE (MEK) (78-93-3)
LC50 (Inhalation): 23500 mg/kg (rat)
LD50 (Ingestion): 2737 mg/kg (rat)
LD50 (Intraperitoneal): 607 mg/kg (rat)
LD50 (Skin): 6480 mg/kg (rabbit)
TCLo (Inhalation): 100 ppm/5 minutes (Human - eye irritant)
ISOPROPYL ALCOHOL (67-63-0)
LC50 (Inhalation): 16000 ppm/8 hours 16000/8 hours (rat)
LCLo (Inhalation): 12000 ppm/8 hours (mouse)
LD50 (Ingestion): 3600 mg/kg (mouse)
LD50 (Intraperitoneal): 667 mg/kg (rabbit)
LD50 (Intravenous): 1088 mg/kg (rat)
LD50 (Skin): 12,800 mg/kg (rabbit)
LDLo (Ingestion): 3570 mg/kg (human)
LDLo (Intravenous): 1024 mg/kg (dog)
LDLo (Subcutaneous): 6000 mg/kg (mouse)
TDLo (Ingestion): 13 mg/kg (infant)
ZINC OXIDE (1314-13-2)
LC50 (Inhalation): 2500 mg/m3 (mouse)
LD50 (Ingestion): 7950 mg/kg (mouse)
LD50 (Intraperitoneal): 240 mg/kg (rat)
LDLo (Ingestion): 500 mg/kg (human)
TCLo (Inhalation): 600 mg/m3 (human)

## 12. ECOLOGICAL INFORMATION

**Environment** Aliphatic hydrocarbons behave differently in the environment depending on their size. WATER: Light aliphatics volatilise rapidly from water (half life - few hours). Bioconcentration should not be significant. SOIL: Light aliphatics biodegrade quickly in soil and water, heavy aliphatics biodegrade very slowly. ATMOSPHERE: Vapour-phase aliphatics will degrade by reaction with hydroxyl radicals.

## 13. DISPOSAL CONSIDERATIONS

**Waste Disposal** Wearing the protective equipment outlined, ensure all ignition sources are extinguished. For small quantities, absorb on paper, sand or similar and evaporate under a fume cupboard or open area. For large volumes, atomise into incinerator (mixing with more flammable solvent if required) or recycle by gravimetric separation, distilling & reusing. Contact the manufacturer for additional information if required.

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

## 14. TRANSPORT INFORMATION


**CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE**

| | | | | | |
|---|---|---|---|---|---|
| **Shipping Name** | ADHESIVES containing flammable liquid | | | | |
| **UN No.** | 1133 | **DG Class** | 3 | **Subsidiary Risk(s)** | None Allocated |
| **Packing Group** | II | **Hazchem Code** | 3YE | **GTEPG** | 3A1 |

**IATA**

| | | | | | |
|---|---|---|---|---|---|
| **Shipping Name** | ADHESIVES containing flammable liquid | | | | |
| **UN No.** | 1133 | **DG Class** | 3 | **Subsidiary Risk(s)** | None Allocated |
| **Packing Group** | II | | | | |

**IMDG**

| | | | | | |
|---|---|---|---|---|---|
| **Shipping Name** | ADHESIVES containing flammable liquid | | | | |
| **UN No.** | 1133 | **DG Class** | 3 | **Subsidiary Risk(s)** | None Allocated |
| **Packing Group** | II | | | | |

## 15. REGULATORY INFORMATION

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

**AICS** All chemicals listed on the Australian Inventory of Chemical Substances (AICS).

## 16. OTHER INFORMATION

**Additional Information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

WORK PRACTICES - SOLVENTS: Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

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).

ABBREVIATIONS:
ACGIH - American Conference of Industrial Hygienists.
ADG - Australian Dangerous Goods.
BEI - Biological Exposure Indice(s).
CAS# - Chemical Abstract Service number - used to uniquely identify chemical compounds.
CNS - Central Nervous System.
EC No - European Community Number.
HSNO - Hazardous Substances and New Organisms.
IARC - International Agency for Research on Cancer.
mg/m3 - Milligrams per Cubic Metre.
NOS - Not Otherwise Specified.
pH - relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm - Parts Per Million.
RTECS - Registry of Toxic Effects of Chemical Substances.
STEL - Short Term Exposure Limit.
SWA - Safe Work Australia.
TWA - Time Weighted Average.

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

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:
The recommendation for protective equipment contained within this Chem Alert report is provided as a guide only. Factors such as 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.

**Report Status** This document has been compiled by RMT on behalf of the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer 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.

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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**SDS Date** 09 Sep 2010

## End of Report