

DATE OF ISSUE: October 2006

REPLACES: None

Material Safety Data Sheet

1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<u>SUPPLIER</u>	ACM Pty Ltd ABN 55 064 142 212 Address: 47 Industrial Park Drive, Lilydale, Victoria 3140, AUSTRALIA Telephone: +61 3 9739 4911 Emergency Telephone No: +61 3 9739 4911 (Monday to Friday, 8:30 am – 5:00 pm).
<u>PRODUCT</u>	Product Name: UPVC Pipe Cement - Type P Other Names: ADHESIVES containing flammable liquid Manufacturer's Code: 104/105
<u>USE</u>	For bonding UPVC pipes and fittings in pressure applications. Apply by brush.

2. HAZARDS IDENTIFICATION

<u>HAZARD CLASSIFICATION</u>	NOHSC Classification: Hazardous Substance ADG Classification: Dangerous Goods, Class 3 SUSDP Classification: Not scheduled HSNO Classification: 3.1B, 6.1C, 6.4A, 6.7B, 6.9B, 9.2B, 9.3C
<u>RISK PHRASES</u>	R20 Harmful by inhalation. R36/37 Irritating to eyes and respiratory system. R65 Harmful: may cause lung damage if swallowed. R66 Repeated exposure may cause may cause skin dryness or cracking. R67 Vapours may cause drowsiness and dizziness.
<u>SAFETY PHRASES</u>	S2 Keep out of reach of children. S9 Keep container in a well ventilated place. S16 Keep away from ignition sources - No smoking. S25 Avoid contact with eyes. S29 Do not empty into drains. S33 Take precautionary measures against static discharges.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>MIXTURE</u>	CHEMICAL ENTITY	CAS No	PROPORTION
	Cyclohexanone	108-94-1	30 - 60 %
	Tetrahydrofuran	109-99-9	30 - 60 %
	PVC homopolymer	9002-86-2	10 - < 30%
	Other ingredients determined not to be hazardous	Not applicable	< 1%

DATE OF ISSUE: October 2006

REPLACES: None

4. FIRST AID MEASURES

FIRST AID

Swallowed: For advice, call a Poisons Information Centre or a doctor at once. Do NOT induce vomiting. If spontaneous vomiting occurs, keep head below the hips to prevent aspiration into lungs.

Eyes: Can stick eyelids together. If in eye, irrigate immediately with copious amounts of water for 15 minutes with eyelids held open. Seek medical advice immediately.

Skin: Wash affected areas with soap and copious quantities of water immediately. Remove contaminated clothing and footwear. Decontaminate footwear and wash clothing before reuse. Seek medical advice if skin irritation develops.

Inhaled: Remove victim to fresh air. Seek medical advice immediately if adverse symptoms such as respiratory irritation, dizziness or unconsciousness develop. If breathing has stopped apply artificial respiration.

First Aid Facilities: Have eyewashes and safety showers and normal washing facilities available in the vicinity where exposure may occur.

ADVICE TO DOCTOR

Treat symptomatically. Look for signs of aspiration into lungs. The substance may cause chemical pneumonitis.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water fog, foam, dry chemical, carbon dioxide.

HAZARDOUS COMBUSTION PRODUCTS

Smoke, carbon monoxide, carbon dioxide, chlorine gas, hydrogen chloride and other noxious fumes.

PRECAUTIONS FOR FIRE FIGHTERS

This product is highly flammable. Keep containers cool with water spray to prevent rupture of container. Wear full protective equipment including self-contained breathing apparatus. Vapour accumulation could flash and or explode even if ignited from a distance.

HAZCHEM CODE

3[Y]E

6. ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

Wearing full PPE (see Section 8); isolate hazard area and restrict access. Increase ventilation. Remove all sources of ignition. Dyke spill to minimise environmental pollution. Take precautionary measures against static discharge. Inform emergency services if substance has spilled into sewers, drains or waterways.

DATE OF ISSUE: October 2006

REPLACES: None

CLEAN UP
PROCEDURE

Small Spills: Wear safety goggles or face shield and butyl rubber gloves and wipe up spill with paper or rags. Allow product to dry outdoors or in a well ventilated area and dispose as general industrial waste.
Large spills: Notify fire brigade. Wearing full personal protective equipment, including self-contained breathing apparatus, contain spill with sand, earth or Vermiculite. Prevent run-off into drains or waterways. Bail or pump any free liquid into sealable metal containers. Collect absorbed material and also place it in into sealable metal drums. Seal containers and label them in accordance with the Hazardous Substances Labelling Code.

7. HANDLING AND STORAGE

PRECAUTION FOR
SAFE HANDLING

Practice sound industrial hygiene. Wear butyl rubber gloves, safety glasses with side shields and clothing that will minimise skin contact. Wash hands before work breaks. Remove contaminated clothing and protective equipment before entering eating areas. Keep away from ignition sources and guard against static electricity discharges. Avoid run-off into drains or watercourses.

STORAGE

Store in a cool dry place and out of direct sunlight. Store in a manner that will minimize fire or explosion risks. Guard against static electricity accumulation or discharge. Store in a banded area, and if in excess of the regulatory quantity, in a flammable goods store. Do not store with oxidizing agents. May form explosive peroxides, due to the presence of THF, on storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE
STANDARDS

An Australian Exposure Standard for this mixture has not been set by NOHSC, but Australian exposure standards for the major components of this mixture have been set by NOHSC and are given below:

Exposure Standard [NOHSC:1003(1995)]	TWA	STEL
Tetrahydrofuran	150 ppm	No data
Cyclohexanone	25 ppm	No data
PVC vinyl acetate copolymer (Nuisance dust)	10mg/m ³	No data

BIOLOGICAL
LIMIT VALUES

BEI (THF) = 8 mg/L THF in urine (at the end of shift). (Ref. ACGIH)
 BEI (Cyclohexanone) = 8 mg/L cyclohexanolA in urine (at the end of shift). (Ref. ACGIH)

ENGINEERING
CONTROLS

Use only in well ventilated areas and with local exhaust ventilation. Maintain air concentrations below exposure standards.

DATE OF ISSUE: October 2006

REPLACES: None

<u>INCOMPATIBLE MATERIALS</u>	Strong mineral acids, hydrides, oxygen, strong alkalis, oxidizing agents, and chloroform.
<u>HAZARDOUS DECOMPOSITION PRODUCTS</u>	Peroxides. Thermal decomposition will produce hydrogen chloride.
<u>HAZARDOUS REACTIONS</u>	Explosive peroxides can form on storage or when exposed to direct sunlight or air. Hazardous polymerization will not occur.

11. TOXICOLOGICAL INFORMATION

This mixture has not been tested as a whole for its health effects. The toxicology data and health effects given below are those of the major components, of this preparation.

<u>ACUTE HEALTH EFFECTS</u>	<p>Swallowed: Ingestion may cause headaches, nausea, vomiting and adverse effects to the central nervous system due to the presence of tetrahydrofuran and cyclohexanone. Large doses may result in coma and death. LD₅₀ (rat) for tetrahydrofuran is > 1650 mg/kg and for cyclohexanone is 1535mg/kg.</p> <p>Eyes: Strong eye irritant. Can stick eyelids together. May cause reddening of the eye and lachrymation. May produce transient corneal damage due to the presence of cyclohexanone.</p> <p>Skin: Skin irritant due to the presence of THF and cyclohexanone. May cause some reddening, drying and rough chapped skin. Both cyclohexanone and THF are absorbed through the skin. LD₅₀ (rabbit) for cyclohexanone is 948mg/kg and for THF is [no data].</p> <p>Inhaled: Irritant to the respiratory system. Inhalation of high vapour or mist concentrations may lead to dizziness, nausea and loss of consciousness and continued inhalation may lead to death. LC₅₀ (rat) for cyclohexanone is 32 mg/L/4h and for THF is 53.9 mg/L/4 h.</p>
<u>CHRONIC HEALTH EFFECTS</u>	Prolonged or repeated skin contact with THF or cyclohexanone may defat the skin and could lead to irritant contact dermatitis. Liver and kidney damage have been reported for both THF and cyclohexanone in test animals, particularly at high exposure levels. None of the ingredients in this mixture is a sensitizer, mutagenic or carcinogenic.
<u>DELAYED EFFECTS</u>	Liver and kidney damage as well as blood and bone marrow effects have been observed in test animals exposed to cyclohexanone.

DATE OF ISSUE: October 2006

REPLACES: None

12. ECOLOGICAL INFORMATION

ECOTOXICITY Based on the data of the major raw materials used in this product, this mixture may be toxic to aquatic organisms.

TOXICITY TO:	TEST DATA		
	Tetrahydrofuran	Cyclohexanone	PVC resin
Fish	<i>P. promelas</i> LC ₅₀ = 2160 mg/L/96 h	<i>L. indus</i> LC ₅₀ = 536 mg/L/48 h	There are no known data that suggest that PVC resin is toxic to aquatic organisms.
Aqu. Invertebrates	<i>Daphnia magna</i> EC ₅₀ = 382 mg/L/24 h.	<i>Daphnia magna</i> EC ₅₀ = 800 mg/L/24 h.	
Algae	<i>Sc. quadricauda</i> IC ₅ = 3700 mg/L/8 d.	<i>Sc. quadricauda</i> IC ₅ = 370 mg/L/8 d.	
Micro-organisms	<i>Ps. putida</i> EC ₅ = 580 mg/L/16 h.	<i>Ps. putida</i> EC ₅ = 180 mg/L/16 h.	

PERSISTENCE Tetrahydrofuran – (Closed bottle test): 39 %/28 d
AND Cyclohexanone – 87%/14 d (MITI test)
DEGRADABILITY PVC resin – Shows no evidence of biodegradability in soil or water, but can be Removed in biological treatment processes.

MOBILITY Bioaccumulation potential is expected to be low.
 Tetrahydrofuran: log P (o/w) = 0.45
 Cyclohexanone: log P (o/w) = 0.81
 PVC resin: No mobility in soil.

13. DISPOSAL CONSIDERATIONS

This substance and its empty containers are classified as prescribed waste and may only be disposed of in accordance with applicable State and local regulations. These regulations vary from jurisdiction to jurisdiction and hence the user is counselled to seek advice from the local authority and classify the waste before considering disposal. The disposal information given below is a general guide and does not replace the requirement of the local regulations.

DISPOSAL If possible recycle, otherwise incinerate, if permitted, in an approved facility. Empty containers should be drained thoroughly and then vented in a safe place away from heat or ignition sources. Send drums to a drum washing and recycling facility (ensure that the labels are legible and remain on the drums).

SPECIAL PRECAUTIONS Do not puncture, cut or weld a drum that has not been cleaned – it is an explosion hazard. The empty, uncleaned drums still fall under the auspices of the ADG Code and must be transported accordingly.

When large amounts of this product need to be disposed of, the services of a registered, professional waste disposal organisation is highly recommended.

14. TRANSPORT INFORMATION

This product has been classified as Dangerous Goods for the purposes of transport. Depending on the mode of transport, it must be shipped in accordance with the requirements of the Codes tabulated below.

DATE OF ISSUE: October 2006

REPLACES: None

TRANSPORT INFORMATION	ADG	NZS 5433	IMDG/IMO	ICAO/IATA
UN Number	1133	1133	1133	1133
Proper Shipping Name	ADHESIVES (Containing flammable liquid)			
Class	3	3	3	3
Subsidiary Risk	None allocated	None allocated	None allocated	None allocated
Packing Group	II	II	II	II
Hazchem Code	2[Y]E	2[Y]E	Not applicable	Not applicable

15. REGULATORY INFORMATION

AICS All ingredients are listed in AICS

SUSDP Not Scheduled

HSNO GROUP STANDARD This substance falls under the HSNO Surface Coatings and Colourants (Flammable, Toxic [6.1 + 6.7]) Group Standard 2006

NZS 5433 Classified as Dangerous Goods according to NZS 5433:1999 "Transport of Dangerous Goods on Land".

16. OTHER INFORMATION

MSDS **Issue Number:** 01
Date of Issue: October 2006
Replaces Issue: None
Changes made to the previous issue: Not applicable

ACRONYMS **ADG Code:** Australian Code for the Transport of Dangerous Goods by Road and Rail
AICS: Australian Inventory of Chemical Substances.
CAS Number: Chemical Abstracts Service Registry Number
DG: Dangerous Goods
Hazchem Code: An emergency action code of numbers and letters, which gives information to emergency services.
HSNO: Hazardous Substances and New Organisms Act 1996
IATA: International Air Transport Association
ICAO: International Civil Aviation Organization
IMDG: International Maritime Dangerous Goods Code
IMO: International Maritime Organization
N.O.S.: Not otherwise specified.
NOHSC: National Health and Safety Commission.
NZS 5433: New Zealand Standard NZS 5433:1999 "Transport of Dangerous Goods on Land".
SUDP: Standard for the Uniform Scheduling of Drugs and Poisons.
UN Number: United Nations Number

The health and safety information contained in this MSDS is believed to be true and correct. However because ACM Pty Ltd no control over the method of use of this product, all statements or suggestions are made without warranty, expressed or implied, regarding the reliability of the information, or the hazards resulting from the use of the material. Every user should consider the information given in this MSDS in the context of how this product will be used in the user's workplace, including the effects of other products on the premises.

