METALCOTE®

MATERIAL SAFETY DATA SHEET
CEMENT

1. PRODUCT AND COMPANY IDENTIFICATION

TRADE NAME	CEMENT
Product number	MC5H-2471
PRODUCT USE	Contact Adhesive
SUPPLIER	Chemtool Incorporated P.O. Box 538 8200 Ridgefield Road Crystal Lake, IL 60039-0538 Tel: (815) 459-1250 Fax: (815) 459-1955
EMERGENCY TELEPHONE	INFOTRAC U.S. and Canada - (800) 535-5053 Outside the U.S. and Canada - +01-352-323-3500
***Date of last issue**	2010-06-22

2. COMPOSITION AND INFORMATION ON INGREDIENTS

INGREDIENT NAME	CAS No.	WEIGHT
*HEXANE	110-54-3	20-40 %
*BUTANONE, 2- (COMMON NAME: METHYL ETHYL KETONE)	78-93-3	15-30 %
*ACETONE	67-64-1	10-20 %
*BENZENE, METHYL- (COMMON NAME: TOLUENE)	108-88-3	10-20 %
*PHENOL, 2,6-BIS(1,1-DIMETHYLETHYL)-4-METHYL-	128-37-0	1-5 %
MAGNESIUM OXIDE (MgO)	1309-48-4	0.5-1.5 %
ZINC OXIDE (ZnO)	1314-13-2	0.2-1 %
ROSIN	8050-09-7	0.2-1 %
*TALC ($Mg_3H_2(SiO_3)_4$)	14807-96-6	<0-0.5 %

* This chemical(s) is hazardous according to OSHA/WHIMIS criteria

COMPOSITION COMMENTS Refer to section eight for exposure limits on ingredients.
Chemical ingredients not regulated by OSHA, SARA, state or federal agencies are treated confidentially.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Highly flammable liquid. Irritating to eyes and skin. Harmful, danger of serious damage to health by prolonged exposure through inhalation. Possible risk of impaired fertility.

SENSITIZATION	No known information.
***CARCINOGENICITY**	IARC-1: CAS# 71-43-2, BENZENE <100ppm, CAS# 50-00-0, FORMALDEHYDE <10ppm.
TERATOGENICITY	At very high levels of n-hexane in air (1,000-10,000 ppm), signs of damage to sperm-forming cells in male rats occurred. Damage to the lungs occurred in rabbits and mice. People have rarely been exposed to these high levels of n-hexane, so it is not known if these effects would occur in people. It is not known if exposure to n-hexane can affect fertility in people. Experiments done with animals that were fed or breathed in n-hexane did not show any effect on fertility.
HEALTH WARNINGS	INHALATION. Repeated severe exposures or steady prolonged exposure to solvents may cause permanent injury. SKIN CONTACT. Slightly irritating. Repeated or prolonged contact can result in drying of the skin. The product/chemical has a defatting effect on the skin. EYE CONTACT. Strongly irritating. INGESTION. Can cause stomach ache and vomiting. Can cause internal injury.
ROUTE OF ENTRY	Inhalation. Ingestion. Skin and/or eye contact. Skin absorption.

4. FIRST AID MEASURES

INHALATION	Remove victim immediately from source of exposure. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. If breathing stops, provide artificial respiration. Get medical attention.
EYES	Important! Immediately rinse with water for at least 15 minutes. Get medical attention if any discomfort continues.
SKIN	Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
INGESTION	DO NOT induce vomiting. Get medical attention immediately. Drink large amounts of water. Do not give victim anything to drink if he is unconscious.

5. FIRE FIGHTING MEASURES

FLASH POINT (°C)	-21C (-7F) TCC (Tag closed cup).
FLAMMABILITY LIMIT - LOWER(%)	N/D
FLAMMABILITY LIMIT - UPPER(%)	N/D
EXTINGUISHING MEDIA	Use: Alcohol resistant foam. Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc.
SPECIAL FIRE FIGHTING PROCEDURES	Use water to keep fire exposed containers cool and disperse vapors. Water spray may be used to flush spills away from exposures and dilute spills to non-flammable mixtures. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control.
UNUSUAL FIRE & EXPLOSION HAZARDS	Vapors may ignite. Volume and pressure increases strongly when heated. Risk of container explosion in fire.
***HAZARDOUS COMBUSTION PRODUCTS**	Carbon dioxide (CO2). Carbon monoxide (CO). Hydrogen chloride (HCl). Oxides of: Nitrogen.

PROTECTIVE MEASURES IN CASE OF FIRE Firefighters exposed to combustion gases/decomposition products should use a respiratory protective device.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS Minimize skin contact. Avoid breathing vapors. Wear an appropriate respirator if exposure exceeds recommended guidelines. Remove sources of ignition.

PRECAUTIONS TO PROTECT THE ENVIRONMENT Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses or extensive land areas. Assure conformity with applicable government regulations.

SPILL CLEAN-UP PROCEDURES Carefully collect spilled material in closed containers and leave for disposal according to local regulations. Provide good ventilation. Use appropriate protective clothing. Rinse area with water. Do not let washing down water contaminate ponds or waterways.

7. HANDLING AND STORAGE

HANDLING PRECAUTIONS Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level. Do not use in confined spaces without adequate ventilation and/or respirator. Avoid spilling, skin and eye contact. Keep away from heat, sparks and open flame. Eye wash and emergency shower must be available at the work place.

STORAGE PRECAUTIONS Keep away from heat, sparks and open flame. Store separated from: Acids. Oxidizing materials.

STORAGE CRITERIA Flammable liquid storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENT	STD	TWA	STEL	TWA	STEL
HEXANE	OSHA	500 ppm		1800 mg/m3	
	ACGIH	50 ppm (skin)		176 mg/m3	
	NIOSH	50 ppm			
BUTANONE, 2- (COMMON NAME: METHYL ETHYL KETONE)	OSHA	200 ppm		590 mg/m3	
	ACGIH	200 ppm	300 ppm	590 mg/m3	885 mg/m3
	MAK.	200 ppm (skin)			
ACETONE	OSHA	1000 ppm	N/E	2400 mg/m3	
	ACGIH	500 ppm	750 ppm	1188 mg/m3	1782 mg/m3
	NIOSH	250 ppm	N/E		
BENZENE, METHYL- (COMMON NAME: TOLUENE)	OSHA	200 ppm	300 ppm (ceil)		
	ACGIH	50 ppm (skin)	**A4		
	NIOSH	100 ppm	150 ppm		
PHENOL, 2,6-BIS(1,1-DIMETHYLETHYL)-4-METHYL-	OSHA			N/E	N/E
	ACGIH			2 mg/m3 (ihl)**A4	(Vapor and aerosol)
	NIOSH	10 mg/m3			
ZINC OXIDE (ZnO)	OSHA	15 mg/m3 (total)		5 mg/m3 (resp)	
	ACGIH			2 mg/m3 (resp)	10 mg/m3 (resp)
TALC (Mg3H2(SiO3)4)	OSHA			20 mppcf	
	ACGIH			2 mg/m3 **A4 (e)	(resp)

	NIOSH 2 mg/m3 (resp)
INGREDIENT COMMENTS	**ACGIH A4: Not Classifiable as a Human Carcinogen.
PROTECTIVE EQUIPMENT	

ENGINEERING CONTROLS	Use engineering controls to reduce air contamination to permissible exposure level.
VENTILATION	No specific ventilation requirements noted, but forced ventilation may still be required if air contamination exceeds acceptable level.
RESPIRATORS	No specific recommendation made, but respiratory protection may still be required under exceptional circumstances when excessive air contamination exists.
PROTECTIVE GLOVES	Chemical resistant gloves required for prolonged or repeated contact. Use protective gloves made of: Neoprene, nitrile, polyethylene or PVC.
EYE PROTECTION	Wear splash-proof eye goggles to prevent any possibility of eye contact.
PROTECTIVE CLOTHING	Wear appropriate clothing to prevent repeated or prolonged skin contact.
HYGIENIC WORK PRACTICES	Wash at the end of each work shift and before eating, smoking and using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE/PHYSICAL STATE	Liquid.		
COLOR	Green.		
ODOR	Solvent.		
SOLUBILITY DESCRIPTION	Insoluble in water.		
DENSITY	0.80	**Temperature (°C)**	15.6 (60°F)
VAPOR DENSITY (air=1)	> 1.0		
VAPOR PRESSURE	N/D	**Temperature (°C)**	
EVAPORATION RATE	< 1.0	**Reference**	BuAc=1
pH-VALUE, CONC. SOLUTION	N/A		

10. STABILITY AND REACTIVITY

STABILITY	Normally stable.
CONDITIONS TO AVOID	Avoid heat, flames and other sources of ignition. Avoid contact with oxidizers or reducing agents.
HAZARDOUS POLYMERIZATION	Will not polymerize.

POLYMERIZATION DESCRIPTION	Not relevant.
HAZARDOUS DECOMPOSITION PRODUCTS	Hydrogen chloride (HCl). Oxides of: Carbon.

11. TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION	Repeated and prolonged overexposure to n-hexane has been associated with peripheral nerve tissue damage. Adverse effects include numbness, tingling, pain, and loss of muscle control in the extremities, disorientation, impaired vision and reflexes, decline in motor function and paralysis. Prolonged or repeated overexposure to toluene, a component of this product, has been associated with reproductive effects in experimental animals and in long-term chemical abuse situations. Long-term overexposure to toluene has been associated with impaired color vision. Also, long-term overexposure to toluene in occupational environments have been associated with hearing damage.
COMPONENT	**HEXANE**
TOXICOLOGICAL DATA	Chronic toxicity. WHMIS (Canada) D2A - R48/20
TOXIC DOSE - LD 50	25000 mg/kg (oral rat)
TOXIC CONC. - LC 50	48000 ppm/4h (inh-rat)
REPRODUCTION TOXICITY	Toxic to Reproductive Health Category 3 in European Union.
COMPONENT	**BUTANONE, 2- (COMMON NAME: METHYL ETHYL KETONE)**
TOXICOLOGICAL DATA	Reproductive effects. WHMIS (Canada) D2A - R61 Irritating effects. WHMIS (Canada) Eye. D2B - R36
TOXIC DOSE - LD 50	3400 mg/kg (oral rat)
TOXIC CONC. - LC 50	2000 mg/l/4h (inh-rat)
REPRODUCTION TOXICITY	Methyl ethyl ketone is embryotic and/or fetotoxic in animal. MEK detected in maternal milk in human. Embryo or Fetus:death ihl-rat TCLo=1000ppm - Developmental Abnormalities: ihl-rat TCLo=3000ppm/6H - Musculoskeletal abnormalities ihl-rat TCLo= 1000ppm.
COMPONENT	**ACETONE**
TOXICOLOGICAL DATA	Irritating effects. WHMIS (Canada) Eye. D2B - R36
TOXIC DOSE - LD 50	5800 mg/kg (oral rat)
TOXIC DOSE - LD 50	20000 mg/kg (oral rat)
TOXIC DOSE - LD 50 SKIN	2400 mg/kg (skn rbt)
TOXIC CONC. - LC 50	120 mg/l (inh-rat)
COMPONENT	**BENZENE, METHYL- (COMMON NAME: TOLUENE)**
TOXICOLOGICAL DATA	Reproductive effects. WHMIS (Canada) D2A - R63 Corrosive effects. WHMIS (Canada) Skin. D2B - R38
TOXIC DOSE - LD 50	5000 mg/kg (oral rat)
TOXIC CONC. - LC 50	N/A.
CARCINOGENICITY	IARC-3 designation: Not classifiable as to Carcinogenicity to Humans. EPA-D designation: Not classifiable as to human carcinogenicity.
COMPONENT	**MAGNESIUM OXIDE (MgO)**
COMPONENT	**ROSIN**

COMPONENT	**TALC (Mg3H2(SiO3)4)**
TOXICOLOGICAL DATA	Chronic toxicity. WHMIS (Canada) Inhalation. D2A - R49/20 Chronic toxicity. TCLo Inhalation. Rat. 6 mg/m3 csst.qc.ca
TOXIC DOSE - LD 50	No Information Available (NIA).
TOXIC CONC. - LC 50	No Information Available (NIA).
CARCINOGENICITY	IARC-3 designation: Not classifiable as to Carcinogenicity to Humans. MAK-3 designation: Substances which cause concern that they could be carcinogenic for man.

12. ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION	No data on possible environmental effects have been found.
COMPONENT	**MAGNESIUM OXIDE (MgO)**
COMPONENT	**ROSIN**
COMPONENT	**TALC (Mg3H2(SiO3)4)**

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS	Confirm disposal procedures with environmental engineer and local regulations.
WASTE CLASSIFICATION	D001 Ignitible.

14. TRANSPORT INFORMATION

DOT PROPER SHIPPING NAME	Consumer Commodity
DOT HAZARD CLASS	ORM-D (Other Regulated Material D).
LABEL FOR TRANSPORT	

UN No. SEA	UN1133
IMDG CLASS	3
IMDG PACK GR.	II
SEA TRANSPORT NOTES	Adhesives
UN No., AIR	UN1133

ICAO CLASS	3
AIR PACK GR.	II
AIR TRANSPORT NOTES	Adhesives

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

COMPONENT	SARA 302	CERCLA	SARA 313
HEXANE	No	1 lb (air)	Yes
BUTANONE, 2- (COMMON NAME: METHYL ETHYL KETONE)	No	5 000 lbs	Yes
ACETONE	No	5 000 lbs	No
BENZENE, METHYL- (COMMON NAME: TOLUENE)	No	1 000 lbs	Yes
PHENOL, 2,6-BIS(1,1-DIMETHYLETHYL)-4-METHYL-	No	No	No
MAGNESIUM OXIDE (MgO)	No	No	No
ZINC OXIDE (ZnO)	No	***	N982 - Zn
ROSIN	No	No	No
TALC (Mg3H2(SiO3)4)	No	No	No

See Section 2 for Addtional Information

REGULATORY STATUS

*** Indicates that no RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. See 50 Federal Register 13456 (April 4, 1985). Values in Section 313 column represent Category Codes for reporting under Section 313.

CLEAN AIR ACT

SARA HAZARD CATEGORIES Acute Chronic Fire

US STATE REGULATIONS

COMPONENT	CA	MA	FL	MN	NJ	PA	RI
BUTANONE, 2- (COMMON NAME: METHYL ETHYL KETONE)	No					EH	
ACETONE						EH	
BENZENE, METHYL- (COMMON NAME: TOLUENE)	R	Yes			Yes	EH	Yes
ZINC OXIDE (ZnO)					Yes	EH	

STATE REGULATORY STATUS

CALIFORNIA PROPOSITION 65: This product may contain the following chemical(s) considered by the State of California's Safe Drinking Water and Toxic Enforcement Act of 1986 as causing cancer or reproductive toxicity, and for which warnings are now required:
Toluene, developmental hazard, CAS # 108-88-3, 10-20%
Lead, <1ppm
Cadmium, <1ppm
Formaldehyde, cancer hazard, CAS # 50-00-0 <10 ppm
Benzene, CAS # 71-43-2, <100ppm
PENNSYLVANIA RIGHT-TO-KNOW: This product contains the following chemicals that the state of Pennsylvania has identified as Special Hazardous Substances (SHS), Environmental Hazards (EH), or both (ESHS). The PA regulations require that the MSDS identify all SHS or EH chemicals by chemical name, common name, and CAS

Number if they comprise 0.01% or more.
2-Butanone, Environmental Hazard, CAS# 78-93-3
Toluene, Environmental Hazard, CAS # 108-88-3
Zinc compounds regulated under CERCLA and SARA 313, Environmental Hazard

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

LABEL(S) FOR SUPPLY

CONTROLLED PRODUCT CLASSIFICATION

B2 - Flammable Liquids
D2A - Very Irritating and/or Very Chronically Toxic Materials
D2B - Irritating and/or Chronically Toxic Materials

***Risk phrases**

R-11 Highly flammable.
R-22 Harmful if swallowed.
R-23 Toxic by inhalation.
R-25 Toxic if swallowed.
R-36/38 Irritating to eyes and skin.
R-48/20 Harmful, danger of serious damage to health by prolonged exposure through inhalation.

GLOBAL INVENTORIES

COMPONENT	CAN	US	EU	AUS	JAP	KOR	PHLP	CHN
MAGNESIUM OXIDE (MgO)	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	No
ZINC OXIDE (ZnO)	NPRI	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
ROSIN	Yes	Yes	No	No	No	No	No	No
TALC (Mg3H2(SiO3)4)	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	No
BUTANONE, 2- (COMMON NAME: METHYL ETHYL KETONE)	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
ACETONE	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes
BENZENE, METHYL- (COMMON NAME: TOLUENE)	DSL	Yes	EINECS	Yes	PRTR1	Yes	Yes	Yes
PHENOL, 2,6-BIS(1,1-DIMETHYLETHYL)-4-METHYL-HEXANE	DSL	Yes	EINECS	Yes	PRTR1	Yes	Yes	Yes
	DSL	Yes	EINECS	Yes	Yes	Yes	Yes	Yes

CANADA CEPA: All components of this product comply with new substance notification requirements under the Canadian Environmental Protection Act (CEPA).

***USA (TSCA)**

All components in this product are listed on the US Toxic Substances Control Act (TSCA) Inventory or are exempt from TSCA Inventory requirements.

16. OTHER INFORMATION

NFPA-HMIS HAZARD RATING

HEALTH

Temporary incapacitation, injury (2) - HMIS/NFPA

FLAMMABILITY	Ignites easily (3) - HMIS/NFPA
REACTIVITY	Normally Stable (0) - HMIS/NFPA
***NPCA HMIS HAZARD INDEX**	Moderate: Moderately Toxic - May be harmful if inhaled or absorbed (2).
PERSONAL PROTECTION INDEX	G - Safety Eyewear, Gloves and Vapor Respirator
***NPCA HMIS FLAMMABILITY INDEX**	Ignites easily (3).
***REVISION COMMENTS**	* Information revised since previous MSDS version. Section 5: Flash Point Section 15: US Regulatory Status. Section 15: Risk Phrases Section 15: WHMIS Section 2: Percentage Composition
TARIFF CODE	3506.10.0000, 240ml can
***PREPARED BY**	James P. McBriarty Maria Maka
***REVISION No.**	3
***Replacement of MSDS generated**	2008-11-14
***DATE**	2010-06-22
DISCLAIMER	While the information and recommendations set forth herein are believed to be accurate as of the date thereof, the company makes no warranty with respect thereto and disclaims all liability from reliance therein.

*** Information revised since previous MSDS version**

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