

MATERIAL SAFETY DATA SHEET

SECTION I - IDENTIFICATION

TRADE NAME: ArmorFlex
DESCRIPTION: BASE WHITE
PRODUCT CODE IDENTITY: 953WJ340
NPCA HMIS RATING: H 2* F 3 R 2
REVISION: 04
LAST REVISED : 01/13/1999
DATE OF ISSUE: 04/12/2005
COMPANY NAME: COOK COMPOSITES AND POLYMERS CO.
ADDRESS: 820 E. 14th AVENUE
NORTH KANSAS CITY, MO 64116
PREPARED BY:
HAZARD COMMUNICATION DEPT.
INFORMATION TELEPHONE:
COMPOSITES: 1-800-821-3590
POLYMERS: 1-800-488-5541
CUSTOMER:

ATTENTION:

24 HOUR RESPONSE NUMBER (CHEMTREC): 1-800-424-9300 (NORTH AMERICA)
703-527-3887 (INTERNATIONAL)

CCP certifies that its products comply with all the provisions of the Toxic Substances Control Act (TSCA), unless otherwise stated by ingredient in Section II.

*** The percent by weight composition data given in Sections II ***
*** and X are NOT SPECIFICATIONS, but are based on 'target' ***
*** formula values for each ingredient in the product. The data ***
*** are presented as ranges for low hazard ingredients and single ***
*** point values for ingredients of regulatory concern. Actual ***
*** batch concentrations will vary within limits consistent with ***
*** separately established product specifications. ***

SECTION II INGREDIENTS

1
CAS# 000136-52-7
COBALT 2-ETHYLHEXANOATE, 17% COBALT
PCT BY WT: .1220
EXPOSURE LIMIT:
ACGIH TLV/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME
OSHA PEL/TWA: .05 MG/CU.M. AS COBALT METAL, DUST & FUME

2
CAS# 000080-62-6
METHYL METHACRYLATE
PCT BY WT: 5.0000 VAPOR PRESSURE: 29.000 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 100 PPM (410 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (410 MG/CU.M.)
LD50, Oral: 7.9 G/KG (RAT)
LD50, Dermal: 35.5 G/KG (RABBIT)
LC50, Inhalation: >12,500 PPM/0.5 Hr (RAT)

3
CAS# 000100-42-5
STYRENE MONOMER
PCT BY WT: 28.8810 VAPOR PRESSURE: 4.500 MMHG @ 68F
EXPOSURE LIMIT:
ACGIH TLV/TWA: 20 PPM (85 MG/CU.M.)
ACGIH TLV/STEL: 40 PPM (170 MG/CU.M.)
OSHA PEL/TWA: 100 PPM (8 HR TWA)
OSHA PEL/CEILING: ACCEPTABLE MAX. PEAK: 600 PPM (5 MIN IN ANY 3 HRS)
OSHA PEL/STEL: ACCEPTABLE CONCENTRATION: 200 PPM (15 MIN TWA)
LD50, Oral: 4.37 G/KG (RAT)
LD50, Dermal: >5 G/KG (RABBIT)
OTHER: LCLo: 5000 PPM/8H (RAT)

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OTHER (cont.): NIOSH TWA: 50 PPM (215 MG/M3)
OTHER LIMITS:
IARC - Group 2B See Section V

4
CAS# 013463-67-7
TITANIUM DIOXIDE
PCT BY WT: 19.8340
EXPOSURE LIMIT:
ACGIH TLV/TWA: 10 MG/CU.M. (TOTAL DUST)
OSHA PEL/TWA: 15 MG/CU.M. (TOTAL DUST)
LD50, Oral: >7500 MG/KG (RAT)
LD50, Dermal: NOT AVAILABLE
LC50, Inhalation: NOT AVAILABLE

5
CAS# 014807-96-6
TALC (HYDROUS MAGNESIUM SILICATE)
PCT BY WT: 1 - 5
EXPOSURE LIMIT:
ACGIH TLV/TWA: 2 MG/CU.M., RESPIRABLE DUST
OSHA PEL/TWA: 2 MG/CU.M., RESPIRABLE DUST
LD50, Oral: NOT AVAILABLE
LD50, Dermal: NOT AVAILABLE
LC50, Inhalation: NOT AVAILABLE

6
UNSATURATED POLYESTER RESIN
ON TSCA INVENTORY/ON CANADIAN NDSL CAS# PROPRIETARY
PCT BY WT: 10 - 20
EXPOSURE LIMIT:
ACGIH TLV/TWA: NONE ESTABLISHED
OSHA PEL/TWA: NONE ESTABLISHED

7 Y90-0002
UNSATURATED POLYESTER RESIN
ON TSCA INVENTORY CAS# PROPRIETARY
PCT BY WT: 10 - 20
EXPOSURE LIMIT:
ACGIH TLV/TWA: NONE ESTABLISHED
OSHA PEL/TWA: NONE ESTABLISHED

This product contains one or more reported carcinogens or suspected
carcinogens which are noted by NTP, IARC, or OSHA-Z in the appropriate
subsection above under OTHER LIMITS.

This substance is classified as a hazardous air pollutant.

SECTION III PHYSICAL DATA

Boiling Range: High- -N/A F Low- 212.0 F
Vapor Pressure: See Section II
Theoretical Weight per Gallon, Calculated: 10.8341 LB/GL
Theoretical Specific Gravity, Calculated: 1.302
Theoretical VOC, Calculated: 3.724 LB/GL
--If applicable, see Section X for further VOC information--
Physical State: LIQUID
Appearance: WHITE
Odor: MODERATE AROMATIC

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Odor Threshold: -N/A
pH: -N/A
Freezing Point: -N/A
Water Solubility: INSOLUBLE
Coefficient of Water/Oil Distribution: -N/A
Mechanical Impact Explosion: NO KNOWN HAZARD
Static Electricity Explosion: AVOID STATIC CHARGE
% HAP BY WEIGHT 34.070
% MONOMER BY WEIGHT 33.880

SECTION IV FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY CHARACTERISTICS:

Lowest Closed Cup Flashpoint: 82.0 degrees F
For Flash Points 73 to 100 deg. F.
OSHA Flammability Classification: Class IC
DOT Flammability Classification: Flammable Liquid
Lower Flammable Limit in Air: Lower- 1.1 % by volume
DOT Shipping Name:
Flash Points 73 to 100 deg. F. = RESIN SOLUTION, 3, UN1866, PG III

EXTINGUISHING MEDIA:

Foam, carbon dioxide, dry chemical, water fog.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

If polymerization takes place in a container, there is possibility of violent rupture of the container. Vapors are uninhibited and may form polymers in vents or flame arrestors of storage tanks resulting in stoppage of vents. Vapors may cause flash fire. Keep containers tightly closed and isolate from heat, electrical equipment, sparks and flame. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively.

SPECIAL FIRE FIGHTING PROCEDURES:

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool closed containers to prevent pressure build-up and possible auto-ignition or explosion when exposed to extreme heat.

ADDITIONAL TRANSPORTATION INFORMATION:

Freight Classification:
NMFC: 46030 RESIN COMPOUNDS, LIQUID LTL CLASS 55

SECTION V HEALTH HAZARD DATA

EFFECTS OF EXCESSIVE OVEREXPOSURE. PRIMARY ROUTES OF ENTRY ARE:

EYE CONTACT:

Irritation. Symptoms are tearing, redness and discomfort.

SKIN CONTACT:

Irritation. Can cause defatting of skin which may lead to dermatitis.

INHALATION:

Irritation to nose and throat. Extended or repeated exposure to concentrations above the recommended exposure limits may cause brain or nervous system depression, with symptoms such as dizziness, headache

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or nausea and if continued indefinitely, loss of consciousness, liver and kidney damage.

Reports have associated repeated and prolonged occupational over-exposure to solvents with permanent brain and nervous system damage.

INGESTION:

May cause mouth, throat, esophagus and stomach irritation, nausea, vomiting and diarrhea.

MEDICAL CONDITIONS THAT MAY BE AGGRAVATED BY EXPOSURE TO THIS PRODUCT.

Preexisting eye, skin, liver, kidney and respiratory disorders.

EMERGENCY AND FIRST AID PROCEDURES:

In case of eye contact, flush immediately with plenty of water for at least 15 minutes and get medical attention; for skin, wash thoroughly with soap and water. If affected by inhalation of vapors or spray mist, remove to fresh air. If swallowed, get medical attention immediately.

CALIFORNIA PROPOSITION 65 INFORMATION:

WARNING - This product contains a chemical(s) known to the State of California to cause cancer.

OTHER HEALTH HAZARDS:

STYRENE MONOMER

The International Agency for Research on Cancer (IARC) has reclassified styrene as Group 2B "possibly carcinogenic to humans". This new classification is not based on new health data relating to either humans or animals, but on a change in the IARC classification system. The Styrene Information and Research Center does not agree with the reclassification and has published the following statement. "Recently published studies tracing 50,000 workers exposed to high occupational levels of styrene over a period of 45 years showed no association between styrene and cancer, no increase in cancer among styrene workers (as opposed to the average among all workers), and no increase in mortality related to styrene."

An increased incidence of lung tumors was observed in mice from a recent inhalation study. The relevance of this finding is uncertain. Data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic.

Lung effects have been observed in the mouse following repeated exposure to styrene.

DIMETHYLANILINE

Although Dimethylaniline is not listed as a carcinogen by OSHA, NTP, IARC or ACGIH, it contains trace amounts of aniline which is listed by the State of California as a substance known to cause cancer. A report of a two year study of Dimethylaniline was published by NTP (TR 360, March 1989). The study demonstrated some evidence of carcinogenic activity of Dimethylaniline in male rats, equivocal evidence in female mice.

TALC

Talc, Hydrous Magnesium Silicate, contains crystalline silica at levels greater than 0.1% but less than 1.0%. "IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Supplement 7, 1987", concludes there is limited evidence for the carcinogenicity of crystalline silica to humans, Class 2A. This classification was based on exposure to free silica dust and is not expected to be relevant to trace amounts of crystalline silica dispersed in paints and plastics.

METHYL METHACRYLATE

Skin exposure to methyl methacrylate may cause irritation and/or a rash; it is also a potential skin sensitizer.

Prolonged or repeated overexposure at near lethal concentrations can cause liver and kidney damage.

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SECTION VI REACTIVITY DATA

STABILITY: Stable HAZARDOUS POLYMERIZATION: May occur.

CONDITIONS TO AVOID:

Elevated temperatures. Improper addition of promoter and/or catalyst.
Avoid direct contact of MEKP catalyst with accelerator. If an accelerator such as cobalt drier is to be added, mix this accelerator with base material before adding catalyst.

INCOMPATIBILITY (MATERIALS TO AVOID):

Oxidizers, reducing agents, peroxides, strong acids, bases, UV light, or any source of free radicals and mild steel.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition or combustion can produce fumes containing organic acids, carbon dioxide and carbon monoxide.

SECTION VII SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Remove all sources of ignition (flames, hot surfaces, and electrical, static, or frictional sparks). Avoid breathing vapors. Ventilate area. Contain and remove with inert absorbent and non-sparking tools.

WASTE DISPOSAL METHOD:

Dispose of in accordance with local, state and federal regulations. Do not incinerate closed containers. Incinerate in approved facility.

SECTION VIII SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:

Do not breathe or ingest vapors, spray mist or dust while applying, sanding, grinding, or sawing cured product. Wear an appropriate, properly fitted respirator (NIOSH/MSHA approved) during application and other use of this product until vapors, mists and dusts are exhausted, unless air monitoring demonstrates vapor, mist and dust levels are below applicable limits. Follow respirator manufacturer's directions for respirator use. Observe OSHA Standard 29CFR 1910.134.

VENTILATION:

Provide general clean air dilution or local exhaust ventilation in volume and pattern to keep the air contaminant concentration below the lower explosion limit and below current applicable exposure limits in the mixing, application and curing areas; and to remove decomposition product during welding and flame cutting on surfaces coated with this product. In confined areas, use only with forced ventilation adequate to keep vapor concentration below 20% of lower explosion limits. Refer to OSHA Standards 29CFR 1910.94, 1910.107, 1910.108.

NOTE: Heavy solvent vapors should be removed from lower levels of the work area and all ignition sources (nonexplosion-proof motors, etc.) should be eliminated.

PROTECTIVE GLOVES:

Use solvent impermeable gloves to avoid contact with product.

EYE PROTECTION:

Do not get in eyes. Use safety eyewear with splash guards or side shields, chemical goggles, face shields.

OTHER PROTECTIVE EQUIPMENT:

Avoid contact with skin. Use protective clothing. Prevent contact with contaminated clothing. Wash contaminated clothing, including shoes, before reuse.

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SECTION IX SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:

Do not store above 100 deg. F. Store large quantities in buildings designed to comply with OSHA 1910.106. Keep away from heat, sparks and flame. Keep containers closed when not in use and upright to prevent leakage.

OTHER PRECAUTIONS:

Containers should be grounded when pouring. Do not take internally. Wash hands after using and before smoking or eating. Emptied containers may retain hazardous residue and explosive vapors. Keep away from heat, sparks and flames. Do not cut, puncture or weld on or near emptied containers. Follow all hazard precautions given in this data sheet until container is thoroughly cleaned or destroyed. If this product is blended with other components such as thinners, converter, colorants and catalysts prior to use, read all warning labels. Any mixture of components will have hazards of all components. Follow all precautions. If spraying this material, keep spray booths clean. Avoid buildup of spray dust or overspray in booths or ducts.

KEEP OUT OF REACH OF CHILDREN FOR INDUSTRIAL USE ONLY

ADDITIONAL ENVIRONMENTAL INFORMATION:

The VOC quantity listed in Section III is a total theoretical loss value. Under typical conditions only half this amount might be lost to the atmosphere. Loss will vary due to temperature, humidity, film thickness, air movement, spray equipment/techniques, catalyzation, gel and cure rates, etc. If precise values are needed, it is suggested that onsite testing be conducted.

SECTION X Sara Title III Information

SARA 313 INFORMATION:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:

COBALT 2-ETHYLHEXANOATE, 17% COBALT
CAS# 000136-52-7 PCT BY WT: .1220

METHYL METHACRYLATE
CAS# 000080-62-6 PCT BY WT: 5.0000

STYRENE MONOMER
CAS# 000100-42-5 PCT BY WT: 28.8810

DISCLAIMER AND LIMITATION OF LIABILITY

The products sold hereunder shall meet Seller's applicable specifications at the time of shipment. Seller's specifications may be subject to change at any time without notice to Buyer. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the Product Code(s), description and date of purchase) within thirty (30) days of the date of shipment of the product or prior to the expiration of the shipment's quality life, whichever occurs first. THE WARRANTY DESCRIBED HEREIN SHALL BE IN LIEU OF ANY OTHER WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OF FITNESS FOR A PARTICULAR PURPOSE. THERE ARE NO WARRANTIES THAT EXTEND BEYOND THE DESCRIPTION OF THE FACE HEREOF. The Buyer's sole and exclusive remedy against Seller shall be for the

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replacement of the product or refund of the purchase price in the event that a defective condition of the product should be found to exist by Seller. NO OTHER REMEDY (INCLUDING, BUT NOT LIMITED TO, INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY, OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS) SHALL BE AVAILABLE TO THE BUYER.

The sole purpose of this exclusive remedy shall be to provide Buyer with replacement of the product or refund of the purchase price of the product if any defect in material or workmanship is found to exist. This exclusive remedy shall not be deemed to have failed its essential purpose so long as Seller is willing and able to replace the defective products or refund the purchase price.