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MATERIAL SAFETY DATA SHEET
FOR COATINGS AND RELATED MATERIALS

57-1

MANUFACTURER'S NAME: CINTECH INDUSTRIAL COATINGS INC.
ADDRESS: 2217 LANGDON FARM ROAD
CINCINNATI, OHIO 45237-4792

DATE OF PREPARATION: 10/01/98
EMERGENCY AND INFORMATION
TELEPHONE NUMBER: (513) 631-42

SECTION I - PRODUCT IDENTIFICATION

PRODUCT NUMBER: L1496
PRODUCT NAME: BLACK PATTERN SEALER - JASPER COATINGS

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM
H-2* F-3 R-1 P-

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	PERCENT BY WEIGHT		OCCUPATIONAL EXPOSURE LIMITS		VAPOR PRESSURE MM HG/DEG F	ADDITIONAL DATA
	NOTES	WEIGHT	TLV(TWA)	PEL(OSHA)		
CELLULOSE NITRATE (CAS NO.-9004-70-0)		11.3	NOT ESTABLISHED		N/A	
DIISONONYL PHTHALATE (CAS NO.-28553-12-0)		4.6	5 MG/M3	NOT ESTABLISHED	N/A	
ISOPROPYL ALCOHOL (CAS NO.-67-63-0)	3	14.1	400PPM	400PPM	33/68	
ISOBUTYL ISOBUTYL KETONE (CAS NO.-108-10-1)	1,2,3,4	28.0	50PPM	100PPM	16/68	
PROPYLENE GLYCOL METHYL ETHER ACETATE (CAS NO.-108-65-6)	3	5.5	NOT ESTABLISHED		3.7/68	
TOLUENE (CAS NO.-108-88-3)	1,2,3,4	32.3	100PPM (SKIN)	100PPM	17/60	

NOTES

- (1) THIS INGREDIENT (OR A COMPONENT) IS REPORTABLE UNDER THE REQUIREMENTS OF SARA TITLE III, SEC 313.
- (2) THIS INGREDIENT (OR A COMPONENT) IS REGULATED AS A HAZARDOUS AIR POLLUTANT(HAPS) BY TITLE III OF THE CLEAN AIR ACT.
- (3) THIS INGREDIENT (OR A COMPONENT) CONTRIBUTES TO VOLATILE ORGANIC CONTENT (VOC).
- (4) THIS INGREDIENT (OR A COMPONENT) IS LISTED ON THE EPA VOLUNTARY 33/50 LIST OF CHEMICALS TARGETED FOR REDUCTION.

SECTION III - PHYSICAL DATA

BOILING RANGE: 177 - 294 DEG F
EVAPORATION RATE: SLOWER THAN ETHER
PERCENT NON-VOLATILE BY WEIGHT 23.2
VAPOR DENSITY: HEAVIER THAN AIR
PERCENT VOLATILE VOLUME 84.3
W/GAL: 7.59 LBS/GAL

SECTION IV - FIRE AND EXPLOSION DATA

FLAMMABILITY CLASSIFICATION (OSHA): FLAMMABLE LIQUID - CLASS 1B

FLASH POINT: 39 DEG F (SETAFLASH)

LEL: 1.2

EXTINGUISHING MEDIA:

USE FOAM AND/OR CO2 AND/OR DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: KEEP CONTAINER TIGHTLY CLOSED. ISOLATE FROM HEAT, ELECTRICAL EQUIPMENT, SPARKS AND OPEN FLAME. CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT, DURING EMERGENCY CONDITIONS, OVEREXPOSURE TO DECOMPOSITION PRODUCTS MAY CAUSE A HEALTH HAZARD. SYMPTOMS MAY NOT BE IMMEDIATELY APPARENT. OBTAIN MEDICAL ATTENTION. APPLICATION TO HOT SURFACES REQUIRES SPECIAL PRECAUTIONS.

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL ALONG THE GROUND TO POTENTIAL IGNITION SOURCES AWAY FROM THE MATERIAL HANDLING POINT

NEVER USE WELDING OR CUTTING TORCHES ON OR NEAR CONTAINER EVEN WHEN EMPTY. RESIDUAL VAPOR MAY IGNITE EXPLOSIVELY.

SPECIAL FIREFIGHTING PROCEDURES:

WATER MAY BE UNSUITABLE (SEE EXTINGUISHING MEDIA). WATER MAY BE USED TO COOL CLOSED CONTAINERS TO PREVENT PRESSURE BUILD-UP AND POSSIBLE AUTOIGNITION OR EXPLOSION WHEN EXPOSED TO EXTREME HEAT. IF WATER IS USED, FOG NOZZLES ARE PREFERRED. FULL PROTECTIVE EQUIPMENT, INCLUDING SELF-CONTAINED BREATHING APPARATUS, IS NEEDED TO PROTECT FROM ANY HAZARDOUS COMBUSTION PRODUCTS.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: ACUTE: INHALATION: ANESTHETIC. IRRITATION OF THE RESPIRATORY TRACT OR ACUTE NERVOUS SYSTEM DEPRESSION CHARACTERIZED BY THE FOLLOWING PROGRESSIVE STEPS: HEADACHE, DIZZINESS, STAGGERING, CONFUSION, UNCONSCIOUSNESS OR COMA.

SKIN OR EYE CONTACT: IRRITANT

LIQUID CAN BE A SEVERE IRRITANT TO THE EYES.

PROPYLENE GLYCOL METHYL ETHER ACETATE CAN BE ABSORBED IN TOXIC AMOUNTS, THROUGH PROLONGED OR REPEATED EXPOSURE

CHRONIC: SEE ADDITIONAL PRECAUTIONS, SECTION IX

SECTION VIII - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION:	OUTDOOR OR OPEN AREAS - USE APPROVED MECHANICAL FILTER RESPIRATOR TO REMOVE SOLID AIRBORNE PARTICULATES OF OVERSPRAY DURING SPRAY APPLICATION. RESTRICTED VENTILATION AREAS - USE APPROVED CHEMICAL/MECHANICAL FILTERS DESIGNED TO REMOVE A COMBINATION OF VAPORS AND PARTICULATES. CONFINED AREAS - USE APPROVED AIR LINE TYPE RESPIRATORS OR HOODS.
VENTILATION:	PROVIDE SUFFICIENT VOLUME AND PATTERN TO MAINTAIN TLV-TWA BELOW ACCEPTABLE LIMITS (SEE SECTION II). ELIMINATE IGNITION SOURCE IF FLAMMABLE MIXTURES WILL BE ENCOUNTERED.
PROTECTIVE GLOVES:	REQUIRED FOR PROLONGED OR REPEATED CONTACT.
EYE PROTECTION:	USE APPROVED SAFETY EYEWARE DESIGNED TO PROTECT AGAINST SPLASH OF LIQUIDS.
OTHER PROTECTIVE EQUIPMENT:	PROTECTIVE CAP AND COVERABLES ARE RECOMMENDED. REMOVE AND WASH CONTAMINATED CLOTHING BEFORE RE-USE. WEAR CHEMICAL AND SOLVENT RESISTANT SHOES.

SECTION IX - SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN ON HANDLING AND STORING:	KEEP CLOSURE TIGHT AND CONTAINER UPRIGHT TO PREVENT LEAKING. STORE CONTAINERS OUT OF SUN AND AWAY FROM HEAT. ALL CONTAINERS SHOULD BE GROUNDED WHEN HANDLING OR TRANSFERRING IN ORDER TO MAINTAIN PRODUCT QUALITY, DO NOT STORE ABOVE 90F
OTHER PRECAUTIONS:	DO NOT GET IN EYES. AVOID SKIN CONTACT. PREVENT PROLONGED OR REPEATED BREATHING OF VAPOR OR SPRAY MIST. WASH HANDS THOROUGHLY AFTER USE, BEFORE EATING OR SMOKING. NOTICE: REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE. INTENTIONAL MISUSE, BY DELIBERATELY CONCENTRATING AND INHALING VAPORS OF THIS PRODUCT MAY BE HARMFUL OR FATAL.

EXPLANATION AND DEFINITIONS

INTECH INDUSTRIAL COATINGS INC. ALSO MANUFACTURES COATINGS UNDER THE NAME OF JASPER CHEMICAL COATINGS (LACQUER DIVISION)

JASPER CHEMICAL COATINGS MAY BE CONTACTED:

JASPER CHEMICAL COATINGS
1014 VINE STREET
P.O. BOX 27
JASPER, INDIANA 47546
812-482-2863

SWITCHBOARD HOURS:

CINCINNATI - 7:30 A - 5:00 P (EASTERN TIME) *

JASPER - 8:00 A - 5:00 P (EASTERN TIME) *

* CINCINNATI OBSERVES DAYLIGHT SAVINGS TIME, DURING APPROPRIATE TIME OF YEAR. JASPER DOES NOT.
(THE NUMBER ON THE MSDS IS ANSWERED 24 HOURS A DAY FOR "EMERGENCIES.")

SECTION I PRODUCT IDENTIFICATION

PRODUCT NUMBERS AND NAMES WILL APPEAR EXACTLY AS THEY APPEAR ON CONTAINERS. TO AVOID ANY POSSIBLE CONFUSION, ABBREVIATIONS USED ON CONTAINER LABELS WILL BE USED HERE.

THE HAZARDOUS MATERIALS IDENTIFICATION SYSTEM (HMIS) EMPLOYED, TO DETERMINE HEALTH (H), FLAMMABILITY (F) AND REACTIVITY (R) RATINGS FOR THIS PRODUCT, IS THAT DESIGNED BY THE NATIONAL PAINT AND COATINGS ASSOCIATION (NPCA). SINCE PROTECTIVE EQUIPMENT (P) SELECTION IS THE RESPONSIBILITY OF THE APPLICATOR, DEPENDANT ON HIS EQUIPMENT AND USE OF THE MATERIAL, NO RATING IS GIVEN IN THIS SPACE.

SECTION II HAZARDOUS INGREDIENTS

MATERIALS LISTED HERE ARE THOSE COMPONENTS OF THE FORMULATION WHICH:

- * POSE ANY PHYSICAL OR HEALTH HAZARD AS DEFINED BY THE CRITERIA ESTABLISHED BY OSHA IN THE HAZARD COMMUNICATION FINAL STANDARD (29CFR 1910.1200); OR
- * ARE LISTED AS "TOXIC CHEMICALS" AND REPORTABLE UNDER SARA TITLE III, SEC 313; OR
- * ARE REGULATED AS A "HAZARDOUS AIR POLLUTANT" (HAPS) BY TITLE III OF THE CLEAN AIR ACT; OR
- * ARE LISTED ON THE EPA VOLUNTARY 33/50 LIST OF CHEMICALS TARGETED FOR REDUCTION.

ALL SUCH MATERIALS CONTAINED IN AMOUNTS GREATER THAN 1% (WEIGHT) ARE LISTED. MATERIALS KNOWN TO PRESENT PARTICULAR HAZARDS, KNOWN OR SUSPECTED CARCINOGENS—FOR EXAMPLE, ARE LISTED IF CONTAINED IN ANY QUANTITY. HOWEVER, IT IS OCCASIONALLY NECESSARY, FOR TOTAL CLARITY, TO DEFINE THE TYPE RAW MATERIAL CARRYING THE DESIGNATED INGREDIENT. EXAMPLES OF THE TECHNIQUE EMPLOYED TO ACCOMPLISH THIS:

COBALT (METALLIC DRIER)
QUARTZ (MICROCRYSTALLINE SILICA)

IN THE FIRST INSTANCE COBALT IS THE PERTINENT MATERIAL, CONTAINED IN A METALLIC DRIER USED IN A FORMULA. IN THE SECOND CASE, THE PERTINENT MATERIAL IS QUARTZ, CONTAINED IN A SILICA PIGMENT USED.

CHEMICAL ABSTRACT SERVICE NUMBERS (CAS NOS) ARE PRINTED, JUST BELOW THE CHEMICAL NAME, FOR ALL MATERIALS FOR WHICH WE HAVE THEM.

JUST TO THE RIGHT OF THE MATERIAL DESIGNATION, UNDER THE COLUMN DESIGNATED "NOTES", NUMBERS REFERRING TO FOOTNOTES ARE LOCATED. THE FOOTNOTE KEY IS AT THE BOTTOM OF THE HAZARDOUS MATERIALS BOX. IF NONE OF THE MATERIALS ARE FOOTNOTED, THEN THE NOTES IN THE KEY ARE NOT PERTINENT TO THE MATERIAL IN THE FORMULA.

THE AMOUNT OF THE HAZARDOUS INGREDIENT CONTAINED IN THE FORMULA IS FOUND UNDER THE HEADING "PERCENT BY WEIGHT". THE PER-CENT LISTED IS % BY WEIGHT ON TOTAL WEIGHT; DETERMINED BY THEORETICAL CALCULATION. AMOUNTS WHICH ROUND OF TO < 0.1% ARE DESIGNATED "TRACE".

OCCUPATIONAL EXPOSURE LIMITS ARE REPORTED NEXT, USING THOSE ESTABLISHED BY THE AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS. (ACGIH TLV) AND OSHA(PEL).

VAPOR PRESSURE IS REPORTED IN MM HG/DEG F AS:

6/106

MEANING 6 MM HG @ 106 DEG F.

IN THESE TWO SECTIONS, OCCUPATIONAL EXPOSURE LIMITS AND VAPOR PRESSURE, ABBREVIATIONS ARE USED -- FOR SPACE CONSIDERATIONS, N/A SYMBOLIZING "NOT APPLICABLE" AND N/E FOR "NOT ESTABLISHED".

THE TOXICITY DATA SECTION WILL REPORT ANY ADDITIONAL TOXICITY DATA WE HAVE ON THE MATERIAL, SUCH AS LD 50, LC 50, POISON, ETC. THIS COLUMN ALSO OCCASIONALLY DIRECTS THE READER TO "SEE SEC IX" FOR ADDITIONAL EXPLANATORY INFORMATION.

SECTION III PHYSICAL DATA

THE BOILING RANGE REPORTED IS THAT COVERED BY THE FORMULATIONS TOTAL VOLATILE COMPONENTS - REGARDLESS OF THE AMOUNT SPECIFIC TO EACH.

THE PER-CENT VOLATILE VOLUME IS A CALCULATED THEORETICAL FIGURE. A RANGE OF PLUS OR MINUS 1.0% MAY BE ASSUMED.

WEIGHT PER GALLON IS ALSO CALCULATED THEORETICAL. A RANGE OF PLUS OR MINUS 0.10 POUNDS IS NORMALLY ASSUMED BETWEEN 7.0 AND 10.0 POUNDS, INCREASING AND DECREASING PROPORTIONALLY AND SLIGHTLY BEYOND THIS WEIGHT RANGE.

SECTION IV FIRE AND EXPLOSION DATA

THE FLAMMABILITY CLASSIFICATION, ESTABLISHED BY OSHA, IS GIVEN. THESE CLASSIFICATION CRITERIA ARE:

- FP* < 73 DEG F AND BP* < 100 DEG F.,FLAMMABLE LIQUID CLASS IA
- FP < 73 DEG F AND BP > 100 DEG F.,FLAMMABLE LIQUID CLASS IB
- FP 73 DEG F BUT < 100 DEG F.,FLAMMABLE LIQUID CLASS IC
- FP 100 DEG F BUT < 140 DEG F.,COMBUSTIBLE LIQUID CLASS II
- FP 140 DEG F BUT < 200 DEG F.,COMBUSTIBLE LIQUID CLASS IIIA
- FP 200 DEG F AND ABOVE .,COMBUSTIBLE LIQUID CLASS IIIB

* FP - FLASH POINT * BP - BOILING POINT

THE REPORTED FLASH POINT OF THE MATERIAL IS EXPERIMENTALLY DETERMINED USING A SETAFLASH (CLOSED CUP) TESTER. SINCE THIS IS AN EXPERIMENTAL DETERMINATION, A BATCH-TO-BATCH RANGE OF PLUS OR MINUS 3 DEG F SHOULD BE ASSUMED.

THE LOWER EXPLOSIVE LIMIT (LEL) REPORTED IS THAT OF THE LOWEST OF ALL PERTINENT, CONTAINED MATERIALS; AGAIN DISREGARDING THE AMOUNT CONTAINED.

THE REMAINING SECTIONS OF THE FORM ARE TEXT AND REQUIRE NO EXPLANATION. WE WOULD, HOWEVER, LIKE TO CALL ATTENTION TO ONE ASPECT. TO A LARGE EXTENT WE HAVE TRIED TO SPECIFY, REGARDING PRECAUTIONARY STATEMENTS, THE MATERIAL WHICH MAKES THE STATEMENT PERTINENT. AGAIN, WE FEEL THIS WILL BE MOST USEFUL WHEN ASSESSING THE HAZARD POTENTIAL OF THE MIXTURE. IN OTHER WORDS IF A MIXTURE CONTAINS 5-10% OF A MATERIAL WHICH IS A POTENTIAL CHRONIC HEALTH HAZARD, THE CHRONIC HAZARD OF THE WHOLE WOULD NOT NORMALLY BE ASSESSED AS TOO SEVERE. IF WE WERE TO PRINT ONLY THE APPLICABLE PRECAUTION, WITHOUT SPECIFICALLY ATTRIBUTING ITS' SOURCE, READERS WOULD HAVE NO BASIS ON WHICH TO MAKE THIS TYPE ASSESSMENT AND WOULD HAVE TO ASSUME SEVERITY OF THE WHOLE. UTILIZING THIS APPROACH TO MAKING HAZARD ASSESSMENTS OF BLENDS IS AT THE DISCRETION OF THE ASSESSOR.

CINTECH INDUSTRIAL COATINGS INC. BELIEVES THE INFORMATION CONTAINED HEREIN IS ACCURATE. HOWEVER, THE COMPANY ASSUMES NO LIABILITY FOR THE ACCURACY OR COMPLETENESS OF THE INFORMATION. ALL MATERIALS MAY PRESENT UNKNOWN HEALTH HAZARDS AND SHOULD BE USED WITH CAUTION. FINAL DETERMINATION OF SUITABILITY OF THE MATERIAL IS THE SOLE RESPONSIBILITY OF THE USER.