



ANHEUSER-BUSCH COMPANIES

November 28, 1990

EXPRESS MAIL #200321715

Ms. Teresa Heron
Florida Department of
Environmental Regulations
Twin Towers Stone Road
Tallahassee, Florida 32399-2400

Re: **Metal Container Corporation**
Jacksonville, Florida

RECEIVED
NOV 29 1990
DER-BAQM

Dear Ms. Heron:

Per your request, I have attached the MSDS for coatings referenced in the application submitted October 10, 1990. It should be noted that these coatings are typical of the ones used by MCC, but could be replaced with a different NSPS compliant coating.

In addition, I have attached a spreadsheet which lists the specific organic compound emissions by line and the total emission of each specific compound. It should be noted that the estimated emissions from the clean-up solvents and Safety Kleen are based on a past history of percentage usage.

If you have any questions concerning this material, please contact me at (314) 577-4168.

Sincerely,

ANHEUSER-BUSCH COMPANIES, INC.

Robert M. Lanham
Environmental Engineer
Attachment
RML112890

LINE 2 – ALL 12 OUNCE CANS

GLID 640-C-554	147,168	8.50	DIMETHYLETHANOLAMINE	0.025	15.64	0.00	15.64	0.00	0.00	15.64
			E.G. MONOBUTYL ETHER	0.060	37.53	0.00	37.53	0.00	0.00	37.53
			N-BUTYL ALCOHOL	0.06	37.53	0.00	37.53	0.00	0.00	37.53
PPG 3625X	77,999	8.80	DIMETHYLETHANOLAMINE	0.025	8.58	0.83	1.46	7.12	0.71	2.17
			E.G. MONOBUTYL ETHER	0.060	20.59	0.83	3.50	17.09	1.71	5.21
			N-BUTYL ALCOHOL	0.025	8.58	0.83	1.46	7.12	0.71	2.17
INKS	5,887	9.15	GLYCOL ETHER	0.128	3.45	0.83	0.59	2.86	0.29	0.87
			DIBUTYLAMINOETHANOL	0.036	0.97	0.83	0.16	0.80	0.08	0.25
			TRIDECYL ALCOHOL	0.031	0.83	0.83	0.14	0.69	0.07	0.21
			TRIPROPYLENE GLYCOL	0.026	0.70	0.83	0.12	0.58	0.06	0.18
CLEAN-UP SOLVENTS	1,766	6.55	ISOPROPANOL	1.000	5.78	0.00	5.78	0.00	0.00	5.78
	221	7.52	E.G. MONOBUTYL ETHER	1.000	0.83	0.00	0.83	0.00	0.00	0.83
	221	6.76	METHYL ETHYL KETONE	1.000	0.75	0.00	0.75	0.00	0.00	0.75
			SUBTOTALS		141.76		105.48	36.27	3.63	109.11

LINE 3 – ALL 12 OUNCE CANS

PPG 3606	63,466	11.30	DIMETHYLETHANOLAMINE	0.015	5.38	0.90	0.54	4.84	0.48	1.02
			E.G. MONOBUTYL ETHER	0.07	25.10	0.90	2.51	22.59	2.26	4.77
GLID 640-C-554	147,168	8.50	DIMETHYLETHANOLAMINE	0.025	15.64	0.00	15.64	0.00	0.00	15.64
			E.G. MONOBUTYL ETHER	0.060	37.53	0.00	37.53	0.00	0.00	37.53
			N-BUTYL ALCOHOL	0.06	37.53	0.00	37.53	0.00	0.00	37.53
PPG 3625X	77,999	8.80	DIMETHYLETHANOLAMINE	0.025	8.58	0.83	1.46	7.12	0.71	2.17
			E.G. MONOBUTYL ETHER	0.060	20.59	0.83	3.50	17.09	1.71	5.21
			N-BUTYL ALCOHOL	0.025	8.58	0.83	1.46	7.12	0.71	2.17
INKS	5,887	9.15	GLYCOL ETHER	0.128	3.45	0.83	0.59	2.86	0.29	0.87
			DIBUTYLAMINOETHANOL	0.036	0.97	0.83	0.16	0.80	0.08	0.25
			TRIDECYL ALCOHOL	0.031	0.83	0.83	0.14	0.69	0.07	0.21
			TRIPROPYLENE GLYCOL	0.026	0.70	0.83	0.12	0.58	0.06	0.18
CLEAN-UP SOLVENTS	1,766	6.55	ISOPROPANOL	1.000	5.78	0.00	5.78	0.00	0.00	5.78
	221	7.52	E.G. MONOBUTYL ETHER	1.000	0.83	0.00	0.83	0.00	0.00	0.83
	221	6.76	METHYL ETHYL KETONE	1.000	0.75	0.00	0.75	0.00	0.00	0.75
			SUBTOTALS		172.24		108.53	63.71	6.37	114.90

PLANT TOTALS

in $\mu\text{g}/\text{m}^3$

EMISSIONS

COMPOUND	CAS#	(TPY)	
DIMETHYLETHANOLAMINE	108-01-0	60.22	2-(diisopropylamino)ethanol
E.G. MONOBUTYL ETHER	111-76-2	154.30	2 butoxy ethanol - 8hr 1200, 24hr - 286
N-BUTYL ALCOHOL	71-36-3	126.53	- 1 hr = 1,500
ISOPROPANOL	67-63-0	23.01	- 8hr = 9800, 24hr = 2733
METHYL ETHYL KETONE	78-93-3	2.97	- 8hr = 5900, 24hr = 1405
? GLYCOL ETHER	112-59-4	3.15	
DIBUTYLAMINOETHANOL	102-81-8?	0.89	
TRIDECYL ALCOHOL	112-70-9	0.76	1-Tridecanol, no AAC
TRIPROPYLENE GLYCOL	24800-44-0	0.64	
MINERAL SPIRITS	64741-41-7	2.97	
TOLUENE	108-88-3	0.02	AAC = 2000 annual
XYLENE	1330-20-7	0.35	AAC = 300 annual
ETHYL BENZENE	100-41-4	0.02	8hr = 4350 24hr = 1036
1,1,1 TRICHLOROETHANE	71-55-6	0.02	AAC = 0.02 annual
TETRACHLOROETHYLENE	127-18-4	0.02	= PERC 8hr = 140, 24hr = 33
TOTAL		375.86	

AAC
most
stringent

VOC DATA SHEET

PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacture: PPG

Coating Identification: CE3606 water reducible white enamel

Batch Identification:

Supplied To: Metal Container Corporation

Properties of the coating as supplied¹ to the customer:

A. Coating Density (D_C) _S :	11.30 lb/gal	1.36	kg/l
x ASTM D1475		Other ²	
B. Total Volatiles (W_V) _S :	42.0	Weight Percent	
x ASTM D2369		Other ²	
C. Water Content: 1. (W_W) _S	33.5	Weight Percent	
ASTM D379	x	ASTM D4017	Other ²
2. (V_W) _S	45.4	Volume Percent	
x Calculated		Other ²	
D. Organic Volatiles (W_O) _S :	8.5	Weight Percent	
E. Nonvolatiles Content (V_N) _S :	41.6	Volume Percent	
F. VOC Content (VOC) _S : 1.	1.76	lb/gal coating less water	
or	.21	kg/l coating less water	
2.	2.31	lb/gal solids	
or	.28	kg/l solids	

Remarks: (use reverse side)

¹The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

²Explain the other method used under "Remarks".

Signed:

Wanda Kuhn

Date: October 16, 1989

MATERIAL SAFETY DATA SHEET
COATINGS AND RESINS GROUP

SECTION I - PRODUCT INFORMATION

MANUFACTURER'S NAME: PPG INDUSTRIES, INC.
PRODUCT CODE/IDENTITY: CE3606 (011989T)
CUSTOMER PART#/NAME:
PRODUCT TRADE NAME: WATER REDUCIBLE WHITE ENAMEL
CHEMICAL FAMILY: POLYESTER MELAMINE

SHIPPING INFORMATION

US-DOT: SHIPPING NAME: PAINT, COMBUSTIBLE LIQUID
HAZARD CLASS:
UN NUMBER: UN1263

ICAO: NAME: UNAVAILABLE
HAZARD LABEL: UNAVAILABLE

INTERNATIONAL: SHIPPING NAME: UNAVAILABLE
HAZARD CLASS: UNAVAILABLE

SARA 311/312 CATEGORIES FOR THIS PRODUCT
ACUTE=Y CHRONIC=Y FLAM=Y PRESS=N REAC=N

ALL CHEMICAL SUBSTANCES IN THIS PRODUCT COMPLY WITH ALL APPLICABLE
RULES OR ORDERS UNDER THE ENVIRONMENTAL PROTECTION AGENCY'S TOXIC
SUBSTANCES CONTROL ACT.

PRODUCT SAFETY INFO: 260 KAPPA DRIVE
PITTSBURGH, PA 15238
(412) 963-5822

EMERGENCY MEDICAL INFO: (304) 843-1300
EMERGENCY SPILL INFO: (304) 843-1300
DATE OF MSDS PREPARATION: 6/06/89

THIS MATERIAL SAFETY DATA SHEET HAS BEEN PREPARED IN ACCORDANCE
WITH THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200),
CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM, THE
SUPPLIER NOTIFICATION REQUIREMENTS OF SARA TITLE III, SECTION 313,
AND OTHER APPLICABLE RIGHT-TO-KNOW REGULATIONS. ABBREVIATIONS
AND OTHER DESIGNATIONS USED ON THIS MATERIAL SAFETY DATA SHEET
INCLUDE THE FOLLOWING:

U/I = UNKNOWN INFORMATION; N/A = NOT APPLICABLE;
NOT ESTAB. = NOT ESTABLISHED; CERT. LTR. = CHEMICAL
O.K. ON TSCA INVENTORY; CAS NO. NOT AVAILABLE

SAMPL43114 (CUSTOMER NO.) LOCATION : 0808 89CE3606/////606

SECTION II - INGREDIENTS

INGREDIENTS	%	OCCUPATIONAL EXPOSURE LIMITS						SARA TITLE III & CERCLA RATING									
		WEIGHT	TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-STEL	PPG-IPEL-TWA	PPG-IPEL-STEL	HS (102)	EHS (302)	TC+ (313)	RQ (LBS)	TPQ (LBS)	SARA 311/312 AC	CH	FL	PR
TITANIUM DIOXIDE # ...[13463-67-7]...	25-30	NOT ESTAB	NOT ESTAB	15 mg/m3	NOT ESTAB	15 mg/m3	NOT ESTAB	N	N	N	N/A	N/A	N	Y	N	N	N
ACUTE: NO SEVERE HAZARDS IDENTIFIED		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: CARCINOGEN												
BARIUM SULFATE ...[7727-43-7]...	2- 5	NOT ESTAB	NOT ESTAB	NOT ESTAB	NOT ESTAB	NOT ESTAB	NOT ESTAB	N	N	Y	N/A	N/A	N	N	N	N	N
ACUTE: NO SEVERE HAZARDS IDENTIFIED		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
DEIONIZED WATER ...[7732-18-5]...	30-35	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	N	N	N	N	N
ACUTE: NO SEVERE HAZARDS IDENTIFIED		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
N,N-DIMETHYL ETHANOLAMINE ...[108-01-0]...	1- 2	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	Y	N	Y	N	N
ACUTE: EYE IRRITANT, SKIN IRRITANT		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
ETHYLENE GLYCOL MONOBUTYL ETHER ...[111-76-2]...	5-10	25 ppm-S	NOT ESTAB	50 ppm-S	NOT ESTAB	25 ppm-S	NOT ESTAB	N	N	Y	N/A	N/A	Y	Y	Y	N	N
ACUTE: EYE IRRITANT		ORAL= 1.48	DERM= .49	INHL=U/I	CHRONIC: LIVER/KIDNEY/BLOOD/BONE MARROW/ TOXIN												
FILM FORMERS, RESINS, AND ADDITIVES ...[NOT ESTAB.]...	25-30	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	Y	N	N	N	N
ACUTE: SKIN SENSITIZER, SKIN IRRITANT		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												

THE FOLLOWING HAZARDOUS MATERIALS ARE COMPONENTS OF ONE OR MORE OF THE ABOVE INGREDIENTS.

BARIUM COMPOUNDS	2- 5	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	Y	N/A	N/A	-	-	-	-	-
**** THIS CHEMICAL CATEGORY IS BEING REPORTED IN ACCORDANCE WITH SARA TITLE III, SECTION 313.																	
GLYCOL ETHERS	5-10	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	Y	N/A	N/A	-	-	-	-	-
**** THIS CHEMICAL CATEGORY IS BEING REPORTED IN ACCORDANCE WITH SARA TITLE III, SECTION 313.																	

CARCINOGENIC ACCORDING TO CRITERIA ESTABLISHED BY: * =NTP ** =IARC @ =OSHA # =OTHER
 ORAL = LD50 ORAL (RAT), (g/kg) DERM = LD50 DERMAL (RABBIT), (g/kg) INHL = LC50 INHALATION (RAT), (Mg/L)
 + INGREDIENTS IN THE TC COLUMN ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III. SEE 40 CFR PART 372.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

[FORMULA VALUES, NOT SALES SPECIFICATIONS]

BOILING RANGE: 78 - 171 DEG. C SOLUBILITY IN WATER: 40.4%
VAPOR PRESSURE: 16.9mmHg WT/GAL (LBS): 11.30 (U.S.)
VAPOR DENSITY: HEAVIER THAN AIR pH: U/I
% VOL/VOLUME: 57.10 % SOLID BY WEIGHT: 58.85
EVAP RATE(BuOAc=100): 34 SPECIFIC GRAVITY: 1.35
ODOR/APPEARANCE: VISCOUS LIQUID WITH AN ODOR CHARACTERISTIC OF THE
CHEMICAL FAMILY AND ANY SOLVENTS LISTED IN SECTION II.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

US-DOT CATEGORY: COMBUSTIBLE

FLASHPOINT: 130 DEG. F PMCC

FLAMMABLE LIMITS: LEL U/I

UEL U/I

EXTINGUISHING MEDIA:

USE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CLASS B EXTINGUISHERS (CARBON DIOXIDE, DRY CHEMICAL, OR UNIVERSAL AQUEOUS FILM FORMING FOAM) DESIGNED TO EXTINGUISH NFPA CLASS II COMBUSTIBLE LIQUID FIRES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CLOSED CONTAINERS MAY EXPLODE OR BURST (DUE TO THE BUILD-UP OF STEAM PRESSURE) WHEN EXPOSED TO EXTREME HEAT.

SPECIAL FIRE FIGHTING PROCEDURES:

WATER SPRAY MAY BE INEFFECTIVE. WATER SPRAY 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 PREFERABLE. FIRE-FIGHTERS SHOULD WEAR SELF CONTAINED BREATHING APPARATUS.

SECTION V - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: NOT EXPECTED TO OCCURINCOMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID):

AVOID CONTACT WITH STRONG ALKALIES, STRONG MINERAL ACIDS, OR STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:

MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS WHEN HEATED. WELDING, BRAZING, OR FLAME-CUTTING ON SURFACES COATED WITH THIS PRODUCT MAY PRODUCE FUMES INCLUDING:
Carbon Monoxide, Oxides of Nitrogen, Formaldehyde

SECTION VI - SPILL OR LEAK PROCEDURESSTEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

PROVIDE MAXIMUM VENTILATION. ONLY PERSONNEL EQUIPPED WITH PROPER RESPIRATORY AND SKIN AND EYE PROTECTION SHOULD BE PERMITTED IN THE AREA. REMOVE ALL SOURCES OF IGNITION. TAKE UP SPILLED MATERIAL WITH SAWDUST, VERMICULITE, OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD:

WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, PROVINCIAL, AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. EMPTY CONTAINERS SHOULD BE RECYCLED OR DISPOSED OF THROUGH AN APPROVED WASTE MANAGEMENT FACILITY.

SECTION VII - HEALTH HAZARD DATAEFFECTS OF OVEREXPOSURE FROM:

INGESTION:

-HARMFUL OR FATAL IF SWALLOWED.

EYE CONTACT:

-CAUSES SEVERE EYE IRRITATION.

SKIN CONTACT:

-CAUSES PRIMARY SKIN IRRITATION.

-MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

-PROLONGED OR REPEATED CONTACT MAY CAUSE AN ALLERGIC SKIN REACTION.

INHALATION:

-VAPOR AND SPRAY MIST HARMFUL IF INHALED.

-VAPOR IRRITATES EYES, NOSE, AND THROAT.

-REPEATED EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY CAUSE IRRITATION OF THE RESPIRATORY SYSTEM AND PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

-INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS CAN BE HARMFUL OR FATAL.

CHRONIC OVEREXPOSURE:

AVOID LONG TERM AND REPEATED CONTACT.

-THIS PRODUCT CONTAINS TITANIUM DIOXIDE. ANIMALS INHALING MASSIVE QUANTITIES OF TITANIUM DIOXIDE DUST IN A LONG-TERM STUDY DEVELOPED LUNG TUMORS. STUDIES WITH HUMANS INVOLVED IN MANUFACTURE OF THIS PIGMENT INDICATE NO INCREASED RISK OF CANCER FROM EXPOSURE. POTENTIAL FOR INHALATION OF TITANIUM DIOXIDE DUSTS FROM COATINGS IS VERY LIMITED. SINCE
CONTINUED ON PAGE 4

OVEREXPOSURES ARE NOT EXPECTED, THERE IS NO SIGNIFICANT HAZARD FOR MAN.
-THIS PRODUCT CONTAINS AN ETHYLENE-SERIES GLYCOL ETHER AND/OR ACETATE WHICH HAS BEEN SHOWN TO CAUSE DAMAGE TO THE KIDNEYS, LIVER, BLOOD AND/OR BLOOD-FORMING TISSUES. THE ETHYL AND METHYL DERIVATIVES HAVE CAUSED BIRTH DEFECTS AND REPRODUCTIVE ORGAN DAMAGE IN LABORATORY ANIMALS. THERE IS NO EVIDENCE OF THESE EFFECTS IN HUMANS.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

- EYE WATERING, HEADACHES, NAUSEA, DIZZINESS, AND LOSS OF COORDINATION ARE INDICATIONS THAT SOLVENT LEVELS ARE TOO HIGH.
- REDNESS, ITCHING, BURNING SENSATION AND VISUAL DISTURBANCES MAY INDICATE EXCESSIVE EYE CONTACT.
- DRYNESS, ITCHING, CRACKING, BURNING, REDNESS, AND SWELLING ARE CONDITIONS ASSOCIATED WITH EXCESSIVE SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NOT APPLICABLE

SECTION VIII - FIRST AID PROCEDURES**INGESTION:**

IF SWALLOWED, DO NOT INDUCE VOMITING.

EYE CONTACT:

IN CASE OF EYE CONTACT, FLUSH EYES IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 30 MINUTES.

SKIN CONTACT:

IN CASE OF SKIN CONTACT, REMOVE PROMPTLY BY WIPING, FOLLOWED BY WATERLESS HAND CLEANER AND SOAP AND WATER.

INHALATION:

IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION AND OTHER SUPPORTIVE MEASURES AS REQUIRED.

OTHER:

IF ANY OF THE FOLLOWING OCCUR DURING OR FOLLOWING USE OF THIS PRODUCT, CONTACT A POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY; HAVE MATERIAL SAFETY DATA SHEET INFORMATION AVAILABLE. *INGESTION *EXCESSIVE EXPOSURE TO A CORROSIVE MATERIAL.
* PERSISTENT SKIN/EYE IRRITATION OR BREATHING DIFFICULTIES.

SECTION IX - PROTECTION INFORMATION**PERSONAL PROTECTIVE EQUIPMENT FOR:****EYE PROTECTION:**

WEAR CHEMICAL-TYPE SPLASH GOGGLES OR FULL FACE SHIELD.

SKIN PROTECTION:

WEAR PROTECTIVE CLOTHING, INCLUDING IMPERMEABLE APRON AND GLOVES CONSTRUCTED OF: NITRILE, NEOPRENE, OR LATEX

RESPIRATORY PROTECTION:

OVEREXPOSURE TO VAPORS MAY BE PREVENTED BY ENSURING VENTILATION CONTROLS, VAPOR EXHAUST OR FRESH AIR ENTRY. NIOSH/MSHA-APPROVED (TC-23C-) PAINT SPRAY OR AIR SUPPLIED (TC-19C-) RESPIRATORS MAY ALSO REDUCE EXPOSURE. READ RESPIRATOR MANUFACTURER'S INSTRUCTIONS AND LITERATURE CAREFULLY TO DETERMINE THE TYPE OF AIRBORNE CONTAMINANTS AGAINST WHICH THE RESPIRATOR IS EFFECTIVE AND HOW IT IS TO BE PROPERLY FITTED.

OTHER EQUIPMENT:

CLEAN OR DISCARD CONTAMINATED CLOTHING AND SHOES.

VENTILATION REQUIREMENTS:

PROVIDE GENERAL DILUTION OR LOCAL EXHAUST VENTILATION IN VOLUME AND PATTERN TO KEEP THE CONCENTRATION OF INGREDIENTS LISTED IN SECTION II BELOW THE LOWEST SUGGESTED EXPOSURE LIMITS, THE LEL IN SECTION IV BELOW THE STATED LIMIT, AND TO REMOVE DECOMPOSITION PRODUCTS DURING WELDING OR FLAME CUTTING ON SURFACES COATED WITH THIS PRODUCT.

SECTION X - SPECIAL PRECAUTIONS**HANDLING AND STORAGE PRECAUTIONS:**

DO NOT STORE ABOVE 120 DEGREES F. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED AND PROTECTED FOR STORAGE OF NFPA CLASS II COMBUSTIBLE LIQUIDS.
PROTECT FROM FREEZING.

OTHER PRECAUTIONS:

IF THIS MATERIAL IS PART OF A MULTIPLE COMPONENT COATING SYSTEM, READ THE MATERIAL SAFETY DATA SHEET(S) FOR THE OTHER COMPONENT OR COMPONENTS BEFORE BLENDING AS THE RESULTING MIXTURE MAY HAVE THE HAZARDS OF ALL OF ITS PARTS.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

VOC DATA SHEET

PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacture: PPG Industries
Coating Identification: CC3631 Water Reducible Clear Sizecoat
Batch Identification:
Supplied To: Metal Container Corporation

Properties of the coating as supplied¹ to the customer:

- A. Coating Density (Dc)s: 8.8 lb/gal 1.06 kg/l
x ASIM D1475 Other²
B. Total Volatiles (Wv)s: 62.0 Weight Percent
x ASIM D2369 Other²
C. Water Content: 1. (Ww)s 51.0 Weight Percent
ASTIM D3792 x ASIM D4017 Other²
2. (Vw)s 53.8 Volume Percent
x Calculated Other²
D. Organic Volatiles (Wo)s: 11.0 Weight Percent
E. Nonvolatiles Content (Vn)s: 32.9 Volume Percent
F. VOC Content (VOC)s: 1. 2.1 lb/gal coating less water
or .25 kg/l coating less water
2. 2.95 lb/gal solids
or .35 kg/l solids

Remarks: (use reverse side)

¹The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

²Explain the other method used under "Remarks".

Signed:

David Kuhn

Date: August 31, 1989

MATERIAL SAFETY DATA SHEET
COATINGS AND RESINS GROUP

SECTION I - PRODUCT INFORMATION

MANUFACTURER'S NAME: PPG INDUSTRIES, INC.
PRODUCT CODE/IDENTITY: CC3631 (0623890)
CUSTOMER PART#/NAME:
PRODUCT TRADE NAME: 86PP4 WATER REDUCIBLE
CHEMICAL FAMILY: POLYESTER - ACRYLIC

SHIPPING INFORMATION

US-DOT: SHIPPING NAME: PAINT, COMBUSTIBLE LIQUID
HAZARD CLASS:
UN NUMBER: UN1263

ICAO: NAME: UNAVAILABLE
HAZARD LABEL: UNAVAILABLE

INTERNATIONAL: SHIPPING NAME: UNAVAILABLE
HAZARD CLASS: UNAVAILABLE

SARA 311/312 CATEGORIES FOR THIS PRODUCT
ACUTE=Y CHRONIC=Y FLAM=Y PRESS=N REAC=N

ALL CHEMICAL SUBSTANCES IN THIS PRODUCT COMPLY WITH ALL APPLICABLE
RULES OR ORDERS UNDER THE ENVIRONMENTAL PROTECTION AGENCY'S TOXIC
SUBSTANCES CONTROL ACT.

PRODUCT SAFETY INFO: 260 KAPPA DRIVE
PITTSBURGH, PA 15238
(412) 963-5822

EMERGENCY MEDICAL INFO: (304) 843-1300
EMERGENCY SPILL INFO: (304) 843-1300
DATE OF MSDS PREPARATION: 7/14/89

THIS MATERIAL SAFETY DATA SHEET HAS BEEN PREPARED IN ACCORDANCE
WITH THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200),
CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM, THE
SUPPLIER NOTIFICATION REQUIREMENTS OF SARA TITLE III, SECTION 313,
AND OTHER APPLICABLE RIGHT-TO-KNOW REGULATIONS. ABBREVIATIONS
AND OTHER DESIGNATIONS USED ON THIS MATERIAL SAFETY DATA SHEET
INCLUDE THE FOLLOWING:

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NOT ESTAB. = NOT ESTABLISHED; CERT. LTR. = CHEMICAL
O.K. ON TSCA INVENTORY; CAS NO. NOT AVAILABLE

SAMPL43114 (CUSTOMER NO.) LOCATION : 0808 89CC3631/////714

SECTION II - INGREDIENTS

INGREDIENTS	% WEIGHT	OCCUPATIONAL EXPOSURE LIMITS.....						SARA TITLE III & CERCLA RATING....									
		ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-STEL	PPG-IPEL IPEL-TWA	PPG-IPEL IPEL-STEL	HS (102)	EHS (302)	TC+ (313)	RQ (LBS)	TPQ (LBS)	SARA 311/312 AC	SARA 311/312 CH	SARA 311/312 FL	SARA 311/312 PR	SARA 311/312 RE
POLYOL ...[29086-67-7]... ACUTE: NO SEVERE HAZARDS IDENTIFIED	5-10	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	N	N	N	N	N
		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
N,N-DIMETHYL ETHANOLAMINE ...[108-01-0]... ACUTE: EYE IRRITANT, SKIN IRRITANT	2- 5	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	Y	N	Y	N	N
		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
DEIONIZED WATER ...[7732-18-5]... ACUTE: NO SEVERE HAZARDS IDENTIFIED	45-50	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	N	N	N	N	N
		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
NORMAL BUTYL ALCOHOL ...[71-36-3]... ACUTE: EYE IRRITANT, SKIN IRRITANT	2- 5 50 ppm-S	TWA CEILING	100 ppm	NOT ESTAB	50 ppm-S	TWA CEILING	Y	N	Y	5000	N/A	Y	N	Y	N	N	
		ORAL= 2.50	DERM= 4.20	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												
ETHYLENE GLYCOL MONOBUTYL ETHER ...[111-76-2]... ACUTE: EYE IRRITANT	5-10 25 ppm-S	NOT ESTAB	50 ppm-S	NOT ESTAB	25 ppm-S	NOT ESTAB	N	N	Y	N/A	N/A	Y	Y	Y	N	N	
		ORAL= 1.48	DERM= .49	INHL=U/I	CHRONIC: LIVER/KIDNEY/BLOOD/BONE MARROW/ TOXIN												
FILM FORMERS, RESINS, AND ADDITIVES ...[NOT ESTAB.]... ACUTE: SKIN IRRITANT, SKIN IRRITANT	30-35	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	Y	N	N	N	N
		ORAL=U/I	DERM=U/I	INHL=U/I	CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED												

THE FOLLOWING HAZARDOUS MATERIALS ARE COMPONENTS OF ONE OR MORE OF THE ABOVE INGREDIENTS.

GLYCOL ETHERS	5-10	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	Y	N/A	N/A	-	-	-	-	-
---------------	------	------------	------------	------------	------------	------------	------------	---	---	---	-----	-----	---	---	---	---	---

**** THIS CHEMICAL CATEGORY IS BEING REPORTED IN ACCORDANCE WITH SARA TITLE III, SECTION 313.

ORAL= LD50 ORAL (RAT), (g/kg) DERM= LD50 DERMAL (RABBIT), (g/kg) INHL= LC50 INHALATION (RAT), (Mg/L)
 + INGREDIENTS IN THE TC COLUMN ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III. SEE 40 CFR PART 372.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

[FORMULA VALUES, NOT SALES SPECIFICATIONS]

BOILING RANGE: 100 - 171 DEG. C SOLUBILITY IN WATER: 57.1%
VAPOR PRESSURE: 16.8mmHg WT/GAL (LBS): 8.78 (U.S.)
VAPOR DENSITY: HEAVIER THAN AIR pH: U/I
% VOL/VOLUME: 64.60 % SOLID BY WEIGHT: 40.49
EVAP RATE(BuOAc=100): 33 SPECIFIC GRAVITY: 1.05
ODOR/APPEARANCE: VISCOUS LIQUID WITH AN ODOR CHARACTERISTIC OF THE
CHEMICAL FAMILY AND ANY SOLVENTS LISTED IN SECTION II.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

US-DOT CATEGORY: COMBUSTIBLE

FLASHPOINT: 110 DEG. F PMCC

FLAMMABLE LIMITS: LEL U/I UEL U/I

EXTINGUISHING MEDIA:

USE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CLASS B EXTINGUISHERS (CARBON DIOXIDE, DRY CHEMICAL, OR UNIVERSAL AQUEOUS FILM FORMING FOAM) DESIGNED TO EXTINGUISH NFPA CLASS II COMBUSTIBLE LIQUID FIRES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CLOSED CONTAINERS MAY EXPLODE OR BURST (DUE TO THE BUILD-UP OF STEAM PRESSURE) WHEN EXPOSED TO EXTREME HEAT.

SPECIAL FIRE FIGHTING PROCEDURES:

WATER SPRAY MAY BE INEFFECTIVE. WATER SPRAY 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 PREFERABLE. FIRE-FIGHTERS SHOULD WEAR SELF CONTAINED BREATHING APPARATUS.

SECTION V - REACTIVITY DATASTABILITY: STABLEHAZARDOUS POLYMERIZATION: NOT EXPECTED TO OCCURINCOMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID):

AVOID CONTACT WITH STRONG ALKALIES, STRONG MINERAL ACIDS, OR STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:

MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS WHEN HEATED. WELDING, BRAZING, OR FLAME-CUTTING ON SURFACES COATED WITH THIS PRODUCT MAY PRODUCE FUMES INCLUDING:
Carbon Monoxide, Oxides of Nitrogen, Formaldehyde

SECTION VI - SPILL OR LEAK PROCEDURESSTEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

PROVIDE MAXIMUM VENTILATION. ONLY PERSONNEL EQUIPPED WITH PROPER RESPIRATORY AND SKIN AND EYE PROTECTION SHOULD BE PERMITTED IN THE AREA. REMOVE ALL SOURCES OF IGNITION. TAKE UP SPILLED MATERIAL WITH SAWDUST, VERMICULITE, OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD:

WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, PROVINCIAL, AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. EMPTY CONTAINERS SHOULD BE RECYCLED OR DISPOSED OF THROUGH AN APPROVED WASTE MANAGEMENT FACILITY.

SECTION VII - HEALTH HAZARD DATAEFFECTS OF OVEREXPOSURE FROM:INGESTION:

-HARMFUL OR FATAL IF SWALLOWED.

EYE CONTACT:

-CAUSES SEVERE EYE IRRITATION.

SKIN CONTACT:

-CAUSES PRIMARY SKIN IRRITATION.
-MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

INHALATION:

-VAPOR AND SPRAY MIST HARMFUL IF INHALED.
-VAPOR IRRITATES EYES, NOSE, AND THROAT.
-REPEATED EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY CAUSE IRRITATION OF THE RESPIRATORY SYSTEM AND PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.
-INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS CAN BE HARMFUL OR FATAL.

CHRONIC OVEREXPOSURE:

AVOID LONG TERM AND REPEATED CONTACT.

-THIS PRODUCT CONTAINS AN ETHYLENE-SERIES GLYCOL ETHER AND/OR ACETATE WHICH HAS BEEN SHOWN TO CAUSE DAMAGE TO THE KIDNEYS, LIVER, BLOOD AND/OR BLOOD-FORMING TISSUES. THERE IS NO EVIDENCE OF THESE EFFECTS IN HUMANS.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

CONTINUED ON PAGE 4

- EYE WATERING, HEADACHES, NAUSEA, DIZZINESS, AND LOSS OF COORDINATION ARE INDICATIONS THAT SOLVENT LEVELS ARE TOO HIGH.
- REDNESS, ITCHING, BURNING SENSATION AND VISUAL DISTURBANCES MAY INDICATE EXCESSIVE EYE CONTACT.
- DRYNESS, ITCHING, CRACKING, BURNING, REDNESS, AND SWELLING ARE CONDITIONS ASSOCIATED WITH EXCESSIVE SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NOT APPLICABLE

SECTION VIII - FIRST AID PROCEDURES

INGESTION:

IF SWALLOWED, DO NOT INDUCE VOMITING.

EYE CONTACT:

IN CASE OF EYE CONTACT, FLUSH EYES IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 30 MINUTES.

SKIN CONTACT:

IN CASE OF SKIN CONTACT, REMOVE PROMPTLY BY WIPING, FOLLOWED BY WATERLESS HAND CLEANER AND SOAP AND WATER.

INHALATION:

IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION AND OTHER SUPPORTIVE MEASURES AS REQUIRED.

OTHER:

IF ANY OF THE FOLLOWING OCCUR DURING OR FOLLOWING USE OF THIS PRODUCT, CONTACT A POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY; HAVE MATERIAL SAFETY DATA SHEET INFORMATION AVAILABLE. *INGESTION *EXCESSIVE EXPOSURE TO A CORROSIVE MATERIAL.
* PERSISTENT SKIN/EYE IRRITATION OR BREATHING DIFFICULTIES.

SECTION IX - PROTECTION INFORMATION

PERSONAL PROTECTIVE EQUIPMENT FOR:

EYE PROTECTION:

WEAR CHEMICAL-TYPE SPLASH GOGGLES OR FULL FACE SHIELD.

SKIN PROTECTION:

WEAR PROTECTIVE CLOTHING, INCLUDING IMPERMEABLE APRON AND GLOVES CONSTRUCTED OF: NITRILE, NEOPRENE, OR LATEX

RESPIRATORY PROTECTION:

OVEREXPOSURE TO VAPORS MAY BE PREVENTED BY ENSURING VENTILATION CONTROLS, VAPOR EXHAUST OR FRESH AIR ENTRY. NIOSH/MSHA-APPROVED (TC-23C-) PAINT SPRAY OR AIR SUPPLIED (TC-19C-) RESPIRATORS MAY ALSO REDUCE EXPOSURE. READ RESPIRATOR MANUFACTURER'S INSTRUCTIONS AND LITERATURE CAREFULLY TO DETERMINE THE TYPE OF AIRBORNE CONTAMINANTS AGAINST WHICH THE RESPIRATOR IS EFFECTIVE AND HOW IT IS TO BE PROPERLY FITTED.

OTHER EQUIPMENT:

CLEAN OR DISCARD CONTAMINATED CLOTHING AND SHOES.

VENTILATION REQUIREMENTS:

PROVIDE GENERAL DILUTION OR LOCAL EXHAUST VENTILATION IN VOLUME AND PATTERN TO KEEP THE CONCENTRATION OF INGREDIENTS LISTED IN SECTION II BELOW THE LOWEST SUGGESTED EXPOSURE LIMITS, THE LEL IN SECTION IV BELOW THE STATED LIMIT, AND TO REMOVE DECOMPOSITION PRODUCTS DURING WELDING OR FLAME CUTTING ON SURFACES COATED WITH THIS PRODUCT.

SECTION X - SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

DO NOT STORE ABOVE 120 DEGREES F. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED AND PROTECTED FOR STORAGE OF NFPA CLASS II COMBUSTIBLE LIQUIDS.
PROTECT FROM FREEZING.

OTHER PRECAUTIONS:

IF THIS MATERIAL IS PART OF A MULTIPLE COMPONENT COATING SYSTEM, READ THE MATERIAL SAFETY DATA SHEET(S) FOR THE OTHER COMPONENT OR COMPONENTS BEFORE BLENDING AS THE RESULTING MIXTURE MAY HAVE THE HAZARDS OF ALL OF ITS PARTS.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

COATING SUPPLIER

VOC DATA SHEET

COATING MANUFACTURER: THE GLIDDEN COMPANY

COATING IDENTIFICATION: 640-C-554

BATCH IDENTIFICATION:

SUPPLIED TO: Metal Container Corporation

PROPERTIES OF THE COATING AS SUPPLIED* TO THE CUSTOMER:

A.	COATING DENSITY (D_C) _S :	8.50	LB/GAL.	1.018	KG/L
	(X)	ASTM D1475	()	OTHER**	
B.	TOTAL VOLATILES (W_V) _S :	79.30	WEIGHT PERCENT		
	(X)	ASTM D2369	()	OTHER**	
C.	WATER CONTENT: 1. (W_W) _S	64.85	WEIGHT PERCENT		
	(X)	ASTM D3792	()	ASTM D4017	() OTHER**
	2. (V_W) _S	66.17	VOLUME PERCENT		
	(X)	CALCULATED	()	OTHER**	
D.	ORGANIC VOLATILES (W_O) _S :	14.45	WEIGHT PERCENT		
E.	NON-VOLATILES CONTENT (V_N) _S :	16.62	VOLUME PERCENT		
F.	VOC CONTENT (VOC) _S :	3.6	LB/GAL LESS WATER	0.44	KG/L LESS WATER
		7.4	LB/GAL SOLIDS	0.88	KG/L SOLIDS

REMARKS: TO CALCULATE LBS. OF VOC'S GENERATED ON AN ANNUAL BASIS:

$(\text{VOC LB/GALLON SOLIDS}) \times (\text{GALLONS USED}) \times [(\mathbf{V_N})_S]_{/100} = \text{LBS VOC GENERATED}$

* THE SUBSCRIPT "S" DENOTES EACH VALUE IS FOR THE "AS SUPPLIED" COATING.

** IDENTIFY METHODS USED UNDER "REMARKS".

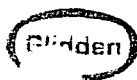
ATO

SIGNED:

Michael L. Martin
Michael L. Martin

DATE 01/25/90

MATERIAL SAFETY DATA SHEET



THE GLIDDEN COMPANY

221 EUGENE AVENUE
CLEVELAND, OHIO 44115
EMERGENCY TELEPHONE NO. (216) 826-5566

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SECTION I

CODE IDENTIFICATION 640 C 554 DATE PRINTED 01/25/90
PRODUCT IDENTIFICATION W/R SPRAY LINER

SECTION II-A - HAZARDOUS INGREDIENTS

CHEMICAL NAME: ETHANOL, 2-(DIMETHYLAMINO)- WT. %: 1-5
COMMON NAME : DIMETHYLAMINOETHANOL SARA? NO
CAS NUMBER : 108-01-0 LD50: 2340.00 MG/KG ORL RAT CERCLA? NO
CARCINOGENICITY LISTED BY: NTP? NO IARC MONOGRAPH? NO OSHA? NO
ACGIH (TWA) : NOT EST. OSHA (TWA) : NOT EST.
ACGIH (STEL) : NOT EST. OSHA (STEL) : NOT EST.
OSHA (SKIN) : SKIN CEILING: SUPP REC STD. : NOT EST.

CHEMICAL NAME: 1-BUTANOL WT. %: 5-10
COMMON NAME : BUTYL ALCOHOL SARA? **
CAS NUMBER : 71-36-3 LD50: 4400.00 MG/KG ORL RAT CERCLA? ***
CARCINOGENICITY LISTED BY: NTP? NO IARC MONOGRAPH? NO OSHA? NO
ACGIH (TWA) : SKIN C 50 PPM OSHA (TWA) : NOT EST.
ACGIH (STEL) : NOT EST. OSHA (STEL) : NOT EST.
OSHA (SKIN) : SKIN CEILING: 150MG/M3 SUPP REC STD. : NOT EST.

CHEMICAL NAME: ETHANOL, 2-BUTOXY- WT. %: 5-10
COMMON NAME : BUTYL CELLOSOLVE SARA? **
CAS NUMBER : 111-76-2 LD50: 530.00 MG/KG ORL RAT CERCLA? NO
CARCINOGENICITY LISTED BY: NTP? NO IARC MONOGRAPH? NO OSHA? NO
ACGIH (TWA) : SKIN 25 PPM OSHA (TWA) : 120 MG/M3
ACGIH (STEL) : NOT EST. OSHA (STEL) : NOT EST.
OSHA (SKIN) : SKIN CEILING: SUPP REC STD. : NOT EST.

SKIN - DENOTES THAT ADDITIONAL EXPOSURE, OVER AND ABOVE AIRBORNE EXPOSURE, MAY RESULT FROM SKIN ABSORPTION.
C-CEILING - THE CONCENTRATION THAT SHOULD NOT BE EXCEEDED EVEN INSTANTANEOUSLY.
** THIS CHEMICAL IS SUBJECT TO SARA 313 REPORTING REQUIREMENTS (40 CFR PART 372).
*** THIS CHEMICAL IS A HAZARDOUS SUBSTANCE AS DEFINED BY CERCLA (40 CFR PART 302.4).

SECTION II-B - OTHER INGREDIENTS

CHEMICAL NAME: EPOXY-STYRENE/ACRYLIC COPOLYMER WT. %: 10-20
COMMON NAME: EPOXY ACRYLIC
CAS NUMBER : 28262-39-7

CHEMICAL NAME: WATER WT. %: 60-70
COMMON NAME: WATER, DEIONIZED
CAS NUMBER : 7732-18-5

SECTION III - PHYSICAL DATA

POR PRESSURE	NOT DETERMINED	SPECIFIC GRAVITY	1.020
FLASHING RANGE	243 - 343 F	WEIGHT PER GALLON	8.47
%VOLATILE BY VOLUME	85.90	COLOR	CLEAR
PHYSICAL STATE	LIQUID	PH	7.30
SOLUBILITY IN WATER	NOT DETERMINED		



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 SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (SETA) 124 F LOWER EXPLOSIVE LIMIT 3.0
UPPER EXPLOSIVE LIMIT NOT DETERMINED

EXTINGUISHING MEDIA

DRY CHEMICAL OR FOAM

UNUSUAL FIRE AND EXPLOSION HAZARDS

CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT OR FIRE.
VAPORS CAN FORM EXPLOSIVE MIXTURES IN AIR AT ELEVATED TEMPERATURES.
MAY DECOMPOSE UNDER FIRE CONDITIONS EMITTING IRRITANT AND/OR TOXIC GASES.

SPECIAL FIRE FIGHTING PROCEDURES

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS.

 SECTION V - HEALTH HAZARD DATA

PRIMARY ROUTE(S) OF EXPOSURE

NOT DETERMINED

EFFECTS OF OVEREXPOSURE

INHALATION IRRITATION OF RESPIRATORY TRACT. PROLONGED INHALATION MAY LEAD TO MUCOUS MEMBRANE IRRITATION, DROWSINESS, DIZZINESS AND/OR LIGHTEADEDNESS, HEADACHE, NAUSEA, VOMITING, MENTAL APATHY, CENTRAL NERVOUS SYSTEM DEPRESSION, ANESTHETIC EFFECT OR NARCOSIS.

SKIN CONTACT IRRITATION OF SKIN. PROLONGED OR REPEATED CONTACT CAN CAUSE DERMATITIS, DEFATTING, ABSORPTION THROUGH SKIN, ALLERGIC RESPONSE, SEVERE SKIN IRRITATION, SEVERE SKIN IRRITATION OR BURNS.

EYE CONTACT IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE REDNESS OF EYES, ABSORPTION THROUGH SKIN, ALLERGIC RESPONSE, SEVERE EYE IRRITATION, SEVERE EYE IRRITATION OR BURNS, CORNEAL INJURY.

INGESTION INGESTION MAY CAUSE FATIGUE, DIZZINESS AND/OR LIGHTEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, VOMITING, DIARRHEA, DIGESTIVE SYSTEM PROBLEMS, VISUAL DISTURBANCES, MENTAL APATHY, LIVER DAMAGE, KIDNEY DAMAGE.

SUPPLEMENTAL HEALTH INFORMATION

OTHER EFFECTS OF OVEREXPOSURE MAY INCLUDE TOXICITY TO BLOOD. MAY BE ABSORBED THROUGH SKIN.
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 THE CONTENTS MAY BE HARMFUL OR FATAL.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

EYE, SKIN, RESPIRATORY DISORDERS
KIDNEY DISORDERS



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THE GLIDDEN COMPANY

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SECTION VI - FIRST AID PROCEDURES

INHALATION REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING.
GET EMERGENCY MEDICAL ATTENTION.
HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY.

SKIN CONTACT WASH OFF QUICKLY WITH PLENTY OF WATER, THEN SOAP AND WATER; REMOVE CONTAMINATED CLOTHING.
REMOVE CONTAMINATED CLOTHING.
WASH CONTAMINATED CLOTHING BEFORE RE-USE.
DISPOSE OF CONTAMINATED LEATHER ITEMS, SUCH AS SHOES AND BELTS.

EYE CONTACT FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. OBTAIN EMERGENCY MEDICAL TREATMENT.

INGESTION IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY.

SECTION VII - REACTIVITY DATA

STABILITY STABLE

INCOMPATIBILITY OXIDIZERS, ACIDS, BASES, ALDEHYDES, ISOCYANATES.

CONDITIONS TO AVOID ELEVATED TEMPERATURES, CONTACT WITH OXIDIZING AGENT.

HAZARDOUS DECOMPOSITION PRODUCTS CARBON MONOXIDE, CARBON DIOXIDE, OXIDES OF NITROGEN.

HAZARDOUS POLYMERIZATION WILL NOT OCCUR

SECTION VIII - SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS.
ELIMINATE ALL SOURCES OF IGNITION.
VENTILATE AREA.
SPILLS MAY BE COLLECTED WITH ABSORBENT MATERIALS.
EVACUATE ALL UNNECESSARY PERSONNEL.
TOXIC TO FISH.
LARGE SPILLS - SHUT OFF LEAK IF SAFE TO DO SO. DIKE AND, CONTAIN SPILL. PUMP TO STORAGE OR SALVAGE VESSELS. USE ABSORBENT TO PICK UP EXCESS RESIDUE. KEEP SALVAGE MATERIAL AND RINSE WATER OUT OF SEWERS OR WATER COURSES.

WASTE DISPOSAL DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.
AVOID DISCHARGE TO NATURAL WATERS.



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SECTION IX - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION

CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE STANDARDS. WHERE RESPIRATORY PROTECTION IS REQUIRED, USE ONLY NIOSH/MSHA APPROVED RESPIRATORS IN ACCORDANCE WITH OSHA STANDARD 29 CFR 1910.134.

VENTILATION

PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS.

PERSONAL PROTECTIVE EQUIPMENT

EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES, IMPERVIOUS GLOVES, IMPERVIOUS CLOTHING, FACE SHIELD, APRON.

SECTION X - SPECIAL PRECAUTIONS

HANDLING AND STORAGE

STORE BELOW 100 F.
KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME.
DO NOT STORE IN ALUMINUM CONTAINERS.

OTHER PRECAUTIONS

USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS RESIDUES.

DOT

PAINT, COMBUSTIBLE LIQUID, UN 1263



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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

VOC DATA SHEET:

PROPERTIES OF THE COATING "AS SUPPLIED" BY THE MANUFACTURER

Coating Manufacturer: PPG Industries

Coating Identification: CC3625X Water Reducible Wet Ink Varnish

Batch Identification:

Supplied To: Anheuser-Busch Inc.

Properties of the coating as supplied¹ to the customer:

- A. Coating Density (Dc)s : 8.8 lb/gal 1.06 kg/l
[x] ASTM D1475 [] Other2
B. Total Volatiles (Wv)s : 62.0 Weight Percent
[x] ASTM D2369 [] Other2
C. Water Content: 1. (Ww)s 51.0 Weight Percent
[] ASTM D3792 [x] ASTM D4017 [] Other2
2. (Vw)s 53.8 Volume Percent
[x] Calculated [] Other2
D. Organic Volatiles (Wo)s : 11.0 Weight Percent
E. Nonvolatiles Content (Vn)s : 32.9 Volume Percent
F. VOC Content (VOC)s: 1. 2.1 lb/gal coating less water
or .25 kg/l coating less water
2. 2.95 lb/gal solids
or .35 kg/l solids

Remarks: (use reverse side)

1The subscript "s" denotes each value is for the coating "as supplied" by the manufacturer.

2Explain the other method used under "Remarks".

Signed: [Signature] Date February 26, 1987

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**MATERIAL SAFETY DATA SHEET
COATINGS AND RESINS GROUP**

SECTION I - PRODUCT INFORMATION

MANUFACTURER'S NAME: PPG INDUSTRIES, INC.
PRODUCT CODE/IDENTITY: CC3625X (111488D)
CUSTOMER PART#/NAME:
PRODUCT TRADE NAME: WATER REDUCIBLE VARNISH
CHEMICAL FAMILY: ACRYLIC-POLYESTER

SHIPPING INFORMATION

US-DOT: SHIPPING NAME: PAINT, COMBUSTIBLE LIQUID
HAZARD CLASS:
UN NUMBER: UN1263

ICAO: NAME: UNAVAILABLE
HAZARD LABEL: UNAVAILABLE

INTERNATIONAL: SHIPPING NAME: UNAVAILABLE
HAZARD CLASS: UNAVAILABLE

SARA 311/312 CATEGORIES FOR THIS PRODUCT
ACUTE=Y CHRONIC=Y FLAM=Y PRESS=N REAC=N

**ALL CHEMICAL SUBSTANCES IN THIS PRODUCT COMPLY WITH ALL APPLICABLE
RULES OR ORDERS UNDER THE ENVIRONMENTAL PROTECTION AGENCY'S TOXIC
SUBSTANCES CONTROL ACT.**

PRODUCT SAFETY INFO: 260 KAPPA DRIVE
PITTSBURGH, PA 15238
(412) 963-5822

EMERGENCY MEDICAL INFO: (304) 843-1300
EMERGENCY SPILL INFO: (304) 843-1300
DATE OF MSDS PREPARATION: 5/09/89

THIS MATERIAL SAFETY DATA SHEET HAS BEEN PREPARED IN ACCORDANCE WITH THE OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200), CANADA'S WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM, THE SUPPLIER NOTIFICATION REQUIREMENTS OF SARA TITLE III, SECTION 313, AND OTHER APPLICABLE RIGHT-TO-KNOW REGULATIONS. ABBREVIATIONS AND OTHER DESIGNATIONS USED ON THIS MATERIAL SAFETY DATA SHEET INCLUDE THE FOLLOWING:

**U/I = UNKNOWN INFORMATION; N/A = NOT APPLICABLE;
NOT ESTAB. = NOT ESTABLISHED; CERT. LTR. = CHEMICAL
O.K. ON TSCA INVENTORY; CAS NO. NOT AVAILABLE**

5944820443 (CUSTOMER NO.) LOCATION : 0819 89CC3625X////509

SECTION II - INGREDIENTS

INGREDIENTS	%	OCCUPATIONAL EXPOSURE LIMITS.....						SARA TITLE III & CERCLA RATING.....									
		ACGIH	OSHA	PPG-IPEL	HS	EHS	TC+	RQ	TPQ	SARA 311/312	AC	CH	FL	PR	RE		
	WEIGHT	TLV-TWA	TLV-STEL	PEL-TWA	PEL-STEL	IPEL-TWA	IPEL-STEL	(102)	(302)	(313)	(LBS)	(LBS)	AC	CH	FL	PR	RE
N,N-DIMETHYL ETHANOLAMINE ...[108-01-0]... ACUTE: EYE IRRITANT, SKIN IRRITANT	2- 5	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	Y	N	Y	N	N
			ORAL=U/I	DERM=U/I	INHL=U/I			CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED									
DEIONIZED WATER ...[7732-18-5]... ACUTE: NO SEVERE HAZARDS IDENTIFIED	45-50	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	N	N	N	N	N
			ORAL=U/I	DERM=U/I	INHL=U/I			CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED									
ETHYLENE GLYCOL MONOBUTYL ETHER ...[111-76-2]... ACUTE: EYE IRRITANT	5-10	25 ppm-S	NOT ESTAB	50 ppm-S	NOT ESTAB	25 ppm-S	NOT ESTAB	N	N	Y	N/A	N/A	Y	Y	Y	N	N
			ORAL= 1.48	DERM= .49	INHL=U/I			CHRONIC: LIVER/KIDNEY/BLOOD/BONE MARROW/REPRODUCTIVE/ TOXIN									
NORMAL BUTYL ALCOHOL ...[71-36-3]... ACUTE: EYE IRRITANT, SKIN IRRITANT	2- 5	50 ppm-S	TWA CEILING	100 ppm	NOT ESTAB	50 ppm-S	TWA CEILING	Y	N	Y	5000	N/A	Y	N	Y	N	N
			ORAL= 2.50	DERM= 4.20	INHL=U/I			CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED									
FILM FORMERS, RESINS, AND ADDITIVES ...[NOT ESTAB.]... ACUTE: SKIN IRRITANT, SKIN IRRITANT	35-40	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	NOT ESTAB.	N	N	N	N/A	N/A	Y	N	N	N	N
			ORAL=U/I	DERM=U/I	INHL=U/I			CHRONIC: NO LONG-TERM EFFECTS IDENTIFIED									

ORAL= LD50 ORAL (RAT), (g/kg) DERM= LD50 DERMAL (RABBIT), (g/kg) INHL= LC50 INHALATION (RAT), (Mg/L)
 + INGREDIENTS IN THE TC COLUMN ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III. SEE 40 CFR PART 372.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

[FORMULA VALUES, NOT SALES SPECIFICATIONS]

BOILING RANGE: 100 - 171 DEG. C SOLUBILITY IN WATER: 57.6%
VAPOR PRESSURE: 16.8mmHg WT/GAL (LBS): 8.78 (U.S.)
VAPOR DENSITY: HEAVIER THAN AIR pH: U/I
% VOL/VOLUME: 64.70 % SOLID BY WEIGHT: 40.25
EVAP RATE(BuOAc=100): 33 SPECIFIC GRAVITY: 1.05
ODOR/APPEARANCE: VISCOUS LIQUID WITH AN ODOR CHARACTERISTIC OF THE
CHEMICAL FAMILY AND ANY SOLVENTS LISTED IN SECTION II.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

US-DOT CATEGORY: COMBUSTIBLE

FLASHPOINT: 110 DEG. F PMCC

FLAMMABLE LIMITS: LEL U/I

UEL U/I

EXTINGUISHING MEDIA:

USE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CLASS B EXTINGUISHERS (CARBON DIOXIDE, DRY CHEMICAL, OR UNIVERSAL AQUEOUS FILM FORMING FOAM) DESIGNED TO EXTINGUISH NFPA CLASS II COMBUSTIBLE LIQUID FIRES.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

CLOSED CONTAINERS MAY EXPLODE OR BURST (DUE TO THE BUILD-UP OF STEAM PRESSURE) WHEN EXPOSED TO EXTREME HEAT.

SPECIAL FIRE FIGHTING PROCEDURES:

WATER SPRAY MAY BE INEFFECTIVE. WATER SPRAY 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 PREFERABLE. FIRE-FIGHTERS SHOULD WEAR SELF CONTAINED BREATHING APPARATUS.

SECTION V - REACTIVITY DATA

STABILITY: STABLE

HAZARDOUS POLYMERIZATION: NOT EXPECTED TO OCCUR

INCOMPATIBILITY (MATERIALS AND CONDITIONS TO AVOID):

AVOID CONTACT WITH STRONG ALKALIES, STRONG MINERAL ACIDS, OR STRONG OXIDIZING AGENTS.

HAZARDOUS DECOMPOSITION PRODUCTS:

MAY PRODUCE HAZARDOUS DECOMPOSITION PRODUCTS WHEN HEATED. WELDING, BRAZING, OR FLAME-CUTTING ON SURFACES COATED WITH THIS PRODUCT MAY PRODUCE FUMES INCLUDING:
Carbon Monoxide, Oxides of Nitrogen, Formaldehyde

SECTION VI - SPILL OR LEAK PROCEDURESSTEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

PROVIDE MAXIMUM VENTILATION. ONLY PERSONNEL EQUIPPED WITH PROPER RESPIRATORY AND SKIN AND EYE PROTECTION SHOULD BE PERMITTED IN THE AREA. REMOVE ALL SOURCES OF IGNITION. TAKE UP SPILLED MATERIAL WITH SAWDUST, VERMICULITE, OR OTHER ABSORBENT MATERIAL AND PLACE INTO CONTAINERS FOR DISPOSAL.

WASTE DISPOSAL METHOD:

WASTE MATERIAL MUST BE DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, PROVINCIAL, AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS. EMPTY CONTAINERS SHOULD BE RECYCLED OR DISPOSED OF THROUGH AN APPROVED WASTE MANAGEMENT FACILITY.

SECTION VII - HEALTH HAZARD DATAEFFECTS OF OVEREXPOSURE FROM:

INGESTION:

-HARMFUL OR FATAL IF SWALLOWED.

EYE CONTACT:

-CAUSES SEVERE EYE IRRITATION.

SKIN CONTACT:

-CAUSES PRIMARY SKIN IRRITATION.

-MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

INHALATION:

-VAPOR AND SPRAY MIST HARMFUL IF INHALED.

-VAPOR IRRITATES EYES, NOSE, AND THROAT.

-REPEATED EXPOSURE TO HIGH VAPOR CONCENTRATIONS MAY CAUSE IRRITATION OF THE RESPIRATORY SYSTEM AND PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE.

-INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS CAN BE HARMFUL OR FATAL.

CHRONIC OVEREXPOSURE:

AVOID LONG TERM AND REPEATED CONTACT.

-THIS PRODUCT CONTAINS AN ETHYLENE-SERIES GLYCOL ETHER AND/OR ACETATE WHICH HAS BEEN SHOWN TO CAUSE DAMAGE TO THE KIDNEYS, LIVER, BLOOD AND/OR BLOOD-FORMING TISSUES. THE ETHYL AND METHYL DERIVATIVES HAVE CAUSED BIRTH DEFECTS AND REPRODUCTIVE ORGAN DAMAGE IN LABORATORY ANIMALS. THERE IS NO EVIDENCE OF THESE EFFECTS IN HUMANS.

SIGNS AND SYMPTOMS OF OVEREXPOSURE:

CONTINUED ON PAGE 4

-EYE WATERING, HEADACHES, NAUSEA, DIZZINESS, AND LOSS OF COORDINATION ARE INDICATIONS THAT SOLVENT LEVELS ARE TOO HIGH.
-REDNESS, ITCHING, BURNING SENSATION AND VISUAL DISTURBANCES MAY INDICATE EXCESSIVE EYE CONTACT.
-DRYNESS, ITCHING, CRACKING, BURNING, REDNESS, AND SWELLING ARE CONDITIONS ASSOCIATED WITH EXCESSIVE SKIN CONTACT.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: NOT APPLICABLE

SECTION VIII - FIRST AID PROCEDURES

INGESTION:

IF SWALLOWED, DO NOT INDUCE VOMITING.

EYE CONTACT:

IN CASE OF EYE CONTACT, FLUSH EYES IMMEDIATELY WITH PLENTY OF WATER FOR AT LEAST 30 MINUTES.

SKIN CONTACT:

IN CASE OF SKIN CONTACT, REMOVE PROMPTLY BY WIPING, FOLLOWED BY WATERLESS HAND CLEANER AND SOAP AND WATER.

INHALATION:

IF AFFECTED BY INHALATION OF VAPOR OR SPRAY MIST, REMOVE TO FRESH AIR. APPLY ARTIFICIAL RESPIRATION AND OTHER SUPPORTIVE MEASURES AS REQUIRED.

OTHER:

IF ANY OF THE FOLLOWING OCCUR DURING OR FOLLOWING USE OF THIS PRODUCT, CONTACT A POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN IMMEDIATELY; HAVE MATERIAL SAFETY DATA SHEET INFORMATION AVAILABLE. *INGESTION *EXCESSIVE EXPOSURE TO A CORROSIVE MATERIAL.
* PERSISTENT SKIN/EYE IRRITATION OR BREATHING DIFFICULTIES.

SECTION IX - PROTECTION INFORMATION

PERSONAL PROTECTIVE EQUIPMENT FOR:

EYE PROTECTION:

WEAR CHEMICAL-TYPE SPLASH GOGGLES OR FULL FACE SHIELD.

SKIN PROTECTION:

WEAR PROTECTIVE CLOTHING, INCLUDING IMPERMEABLE APRON AND GLOVES CONSTRUCTED OF: NITRILE, NEOPRENE, OR LATEX

RESPIRATORY PROTECTION:

OVEREXPOSURE TO VAPORS MAY BE PREVENTED BY ENSURING VENTILATION CONTROLS, VAPOR EXHAUST OR FRESH AIR ENTRY. NIOSH/MSHA-APPROVED (TC-23C-) PAINT SPRAY OR AIR SUPPLIED (TC-19C-) RESPIRATORS MAY ALSO REDUCE EXPOSURE. READ RESPIRATOR MANUFACTURER'S INSTRUCTIONS AND LITERATURE CAREFULLY TO DETERMINE THE TYPE OF AIRBORNE CONTAMINANTS AGAINST WHICH THE RESPIRATOR IS EFFECTIVE AND HOW IT IS TO BE PROPERLY FITTED.

OTHER EQUIPMENT:

CLEAN OR DISCARD CONTAMINATED CLOTHING AND SHOES.

VENTILATION REQUIREMENTS:

PROVIDE GENERAL DILUTION OR LOCAL EXHAUST VENTILATION IN VOLUME AND PATTERN TO KEEP THE CONCENTRATION OF INGREDIENTS LISTED IN SECTION II BELOW THE LOWEST SUGGESTED EXPOSURE LIMITS, THE LEL IN SECTION IV BELOW THE STATED LIMIT, AND TO REMOVE DECOMPOSITION PRODUCTS DURING WELDING OR FLAME CUTTING ON SURFACES COATED WITH THIS PRODUCT.

SECTION X - SPECIAL PRECAUTIONS

HANDLING AND STORAGE PRECAUTIONS:

DO NOT STORE ABOVE 120 DEGREES F. STORE LARGE QUANTITIES IN BUILDINGS DESIGNED AND PROTECTED FOR STORAGE OF NFPA CLASS II COMBUSTIBLE LIQUIDS.
PROTECT FROM FREEZING.

OTHER PRECAUTIONS:

IF THIS MATERIAL IS PART OF A MULTIPLE COMPONENT COATING SYSTEM, READ THE MATERIAL SAFETY DATA SHEET(S) FOR THE OTHER COMPONENT OR COMPONENTS BEFORE BLENDING AS THE RESULTING MIXTURE MAY HAVE THE HAZARDS OF ALL OF ITS PARTS.

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89

PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company

STREET ADDRESS: 1345 Industrial Blvd.

CITY, STATE AND ZIP CODE: Southampton, PA 18966

EMERGENCY TELEPHONE NUMBER: 215-355-3800

PRODUCT CLASS: 220-10

TRADE NAME: All inks with

MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

"POLY WBV" or "D&I" in the name

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	No TLV or PEL has been established for this ingredient.
Golds - < 15% Zinc Compounds < 5% Barium Compounds	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO₂ DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
EMERGENCY TELEPHONE NUMBER: 215-355-3800
PRODUCT CLASS: 220-12
TRADE NAME: All inks with "POLY WRV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: p-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether	No TLV or PEL has been established for this ingredient.
Tridecyl Alcohol	No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Silver or Aluminum - Contains no reportable ingredients	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO₂ DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
EMERGENCY TELEPHONE NUMBER: 215-355-3800
PRODUCT CLASS: 240-1
TRADE NAME: All inks with "POLY WBV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether	No TLV or PEL has been established for this ingredient.
Tridecyl Alcohol	No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Whites - < 15% Zinc Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION <u>1</u>	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO₂ DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
EMERGENCY TELEPHONE NUMBER: 215-355-3800
PRODUCT CLASS: 220-5
TRADE NAME: All inks with "POLY WBV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient. No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Maroons - < 10% Zinc Compounds < 20% Barium Compounds < 5% Copper Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company

STREET ADDRESS: 1345 Industrial Blvd.

CITY, STATE AND ZIP CODE: Southampton, PA 18966

EMERGENCY TELEPHONE NUMBER: 215-355-3800

PRODUCT CLASS: 220-4

TRADE NAME: All inks with

MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

"POLY WRV" or "D&I" in the name

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether	No TLV or PEL has been established for this ingredient
Tridecyl Alcohol	No TLV or PEL has been established for this ingredient
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Reds & Pinks - <15% Zinc Compounds <30% Barium Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight 1
Moderate 2
Serious 3
Severe 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89

PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company

STREET ADDRESS: 1345 Industrial Blvd.

CITY, STATE AND ZIP CODE: Southampton, PA 18966

EMERGENCY TELEPHONE NUMBER: 215-355-3800

PRODUCT CLASS: 220-3

TRADE NAME: All inks with

MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

"POLY WBV" or "D&I" in the name

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether	No TLV or PEL has been established for this ingredient
Tridecyl Alcohol	No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Orange - < 15% Zinc Compounds < 20% Barium Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
EMERGENCY TELEPHONE NUMBER: 215-355-3800
PRODUCT CLASS: 220-2
TRADE NAME: All inks with "POLY WBV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient. No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Yellows - <15% Zinc Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company

STREET ADDRESS: 1345 Industrial Blvd.

CITY, STATE AND ZIP CODE: Southampton, PA 18966

EMERGENCY TELEPHONE NUMBER: 215-355-3800

PRODUCT CLASS: 220-6

TRADE NAME: All inks with

MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

"POLY WBV" or "D&I" in the name

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient. No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Greens - < 15% Zinc Compounds < 20% Copper Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
EMERGENCY TELEPHONE NUMBER: 215-355-3800
PRODUCT CLASS: 220-7
TRADE NAME: All inks with "POLY WRV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A. Blues - < 15% Zinc Compounds < 25% Copper Compounds	No TLV or PEL has been established for this ingredient. NO TLV or PEL has been established for this ingredient. Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200) Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
EMERGENCY TELEPHONE NUMBER: 215-355-3800
PRODUCT CLASS: 220-8
TRADE NAME: All inks with "POLY WBV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Purples - < 15% Zinc Compounds < 15% Copper Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company
 STREET ADDRESS: 1345 Industrial Blvd. CITY, STATE AND ZIP CODE: Southampton, PA 18966
 EMERGENCY TELEPHONE NUMBER: 215-355-3800
 PRODUCT CLASS: 220-9
 TRADE NAME: All inks with "POLY WBV" or "D&I" in the name MANUFACTURER'S CODE IDENTIFICATION: p-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	No TLV or PEL has been established for this ingredient. Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Browns, Tans - < 15% Zinc Compounds & Buffs < 20% Barium Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B DOT Combustible Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO2 DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

INFORMATION ON THIS FORM IS PROPRIETARY INFORMATION AND FURNISHED SOLELY FOR THE USE OF OUR CUSTOMERS

DATE OF PREP. 1/1/89 PREPARED BY Howard W. Davison

HAZARD RATINGS

Minimal..... 0
Slight..... 1
Moderate..... 2
Serious..... 3
Severe..... 4

HEALTH	1
FLAMMABILITY	1
REACTIVITY	0

Section I

MANUFACTURER'S NAME: Acme Printing Ink Company

STREET ADDRESS: 1345 Industrial Blvd.

CITY, STATE AND ZIP CODE: Southampton, PA 18966

EMERGENCY TELEPHONE NUMBER: 215-355-3800

PRODUCT CLASS: 220-11

TRADE NAME: All inks with

"POLY WRV" or "D&I" in the name

MANUFACTURER'S CODE IDENTIFICATION: P-(5 digit number)

Section II - HAZARDOUS INGREDIENTS

Ingredient:	Hazard Data:
Diethylene Glycol Mono-n-hexyl Ether Tridecyl Alcohol	No TLV or PEL has been established for this ingredient.
The information listed below is to assist you in determining reporting requirements under Section 313 of Title III of S.A.R.A.	No TLV or PEL has been established for this ingredient. Contains less than 0.1% Formaldehyde which is under the reportable limit of the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Black - < 5% Copper Compounds	Contains no other ingredients listed by IARC, NTP, or OSHA as a carcinogen.

Section III - PHYSICAL DATA

BOILING RANGE °F 480-505	VAPOR DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. air LIGHTER <input type="checkbox"/>	LIQUID DENSITY: HEAVIER <input checked="" type="checkbox"/> vs. water LIGHTER <input type="checkbox"/>	TYPE OF ODOR Sweet
APPEARANCE Colored Paste	EVAPORATION RATE FASTER <input type="checkbox"/> vs. Butyl Acetate SLOWER <input checked="" type="checkbox"/>	PERCENT VOLATILE WT. 10 - 25	

Section IV - FIRE & EXPLOSION DATA

FLAMMABILITY CLASSIFICATION	OSHA Class III-B Combustible DOT Exempt	FLASH POINT °F 285° (Method Used) C.O.C.	LEL No Data
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EXTINGUISHING MEDIA:

FOAM "ALCOHOL" FOAM CO₂ DRY CHEMICAL WATER FOG OTHER

UNUSUAL FIRE AND EXPLOSION HAZARDS Carbon monoxide and/or carbon dioxide may be generated while burning. Water or foam sprayed directly into open, burning containers may cause frothing. Pressure build up may cause closed containers to explode.

SPECIAL FIREFIGHTING PROCEDURES Use water only to cool closed containers. Use self-contained breathing equipment and protective clothing



UNION CARBIDE CORPORATION
Solvents & Coatings Materials Division
MATERIAL SAFETY DATA SHEET



EFFECTIVE DATE: 05/15/89

Union Carbide urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify its employees, agents, contractors and others whom it knows or believes will use this material of the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of its customers for the product; and (3) request its customers to notify their employees, customers, and other users of the product of this information.

I. IDENTIFICATION

PRODUCT NAME: ISOPROPANOL, ANHYDROUS

CHEMICAL NAME: Isopropyl Alcohol

CHEMICAL FAMILY: Alcohols

FORMULA: $(CH_3)_2CHOH$

MOLECULAR WEIGHT: 60.10

SYNONYMS: 2-Propanol; dimethyl carbinol

CAS # and 67-53-0
CAS NAME: 2-Propanol

II. PHYSICAL DATA

BOILING POINT, 760 mm Hg: 82.26 C (180.07 F)

FREEZING POINT: -88.5 C (-127.3 F)

SPECIFIC GRAVITY($H_2O = 1$):
0.7864 @ 20/20 CVAPOR PRESSURE AT 20°C:
33 mm HgVAPOR DENSITY (air = 1):
2.07SOLUBILITY IN WATER by wt:
Complete at 20 CEVAPORATION RATE
(Butyl Acetate = 1): 2.88

APPEARANCE AND ODOR: Colorless liquid; characteristic odor

PERCENT VOLATILES (BY VOLUME): 100

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UNION CARBIDE is a trademark of Union Carbide Corporation USA
EMERGENCY PHONE NUMBER: 1-800-UCC-HELP (Number available at all times)

UNION CARBIDE CORPORATION
Solvents & Coatings Materials Division
39 Old Ridgebury Road, Danbury, CT. 06817-0001

III. INGREDIENTS

MATERIAL	%	EXPOSURE LIMITS	HAZARD
Isopropanol (CAS # 67-63-0)	100	See section V	Eye irritant, flammable

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 53 F (12 C), Tag Closed Cup, ASTM D 56;
63 F (17 C), Tag Open Cup, ASTM D 1310

FLAMMABLE LIMITS IN AIR, % by volume: LOWER: 2.0
UPPER: 12.7 @ 200 F

EXTINGUISHING MEDIA: Apply alcohol-type or all-purpose-type foams by manufacturer's recommended techniques for large fires. Use CO2 or dry chemical media for small fires.

SPECIAL FIRE FIGHTING PROCEDURES: Use self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point.

V. HEALTH HAZARD DATA

TLV AND SOURCE: Isopropanol, 400 ppm TWA OSHA & ACGIH
500 ppm STEL OSHA & ACGIH
Values from OSHA 29 CFR 1910.1000 Table Z-1-A and ACGIH 1988-89.

EFFECTS OF ACUTE OVEREXPOSURE:

SWALLOWING: Slightly toxic. Ingestion of a large quantity may cause drowsiness and loss of consciousness. Stomach cramps, pain, nausea, vomiting, and diarrhea may also occur.

SKIN ABSORPTION: No evidence of adverse effects from available information.

INHALATION: Low concentrations may cause mild irritation of eyes, nose, and throat. Concentrations above the TLV may result in headache and drowsiness.

SKIN CONTACT: Prolonged contact may cause drying and cracking of skin.

EYE CONTACT: Causes slight to moderate irritation, with possible corneal injury.

EFFECTS OF REPEATED OVEREXPOSURE: No evidence of adverse effects from available information.

OTHER HEALTH HAZARDS: None currently known.

MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None currently known.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING: Give two glasses of water and induce vomiting. If a significant quantity has been swallowed, get medical attention promptly.

SKIN: Remove contaminated clothing. Flush skin with water.

INHALATION: Remove to fresh air. If breathing stops, give artificial respiration and get medical attention as soon as possible.

EYES: Flush eyes immediately with large quantities of water. Get medical attention.

NOTES TO PHYSICIAN: There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

VI. REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Heat, sparks, flames

INCOMPATIBILITY (materials to avoid): Concentrated nitric and sulfuric acids, strong oxidizers, aldehydes, halogens, and halogen compounds.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Burning may produce carbon monoxide and/or carbon dioxide.

HAZARDOUS POLYMERIZATION: Will Not Occur

CONDITIONS TO AVOID: None

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Extinguish and do not turn on any ignition source until area is determined to be free from explosion or fire hazards. Collect large spills for disposal. Flush small spills with water.

WASTE DISPOSAL METHOD: Incinerate in a furnace where permitted under appropriate Federal, State and local regulations. Also, see Section IX.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: Self-contained breathing apparatus in high concentrations.

VENTILATION: This product should be confined within closed equipment, in which case general (mechanical) room ventilation should be satisfactory. Special, local

ventilation is needed at points where vapors are expected to escape to the workplace air.

PROTECTIVE GLOVES: Butyl rubber

EYE PROTECTION: Monogoggles

OTHER PROTECTIVE EQUIPMENT: Eye bath, safety shower

IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE:

WARNING! Flammable. Causes eye irritation.

Keep away from heat, sparks, and flame. Avoid contact with eyes. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.

FOR INDUSTRY USE ONLY

OTHER PRECAUTIONS: At very low concentrations in water (~10 ppm), this product can be readily biodegraded in a biological wastewater treatment plant.

X. REGULATORY INFORMATION

STATUS ON SUBSTANCE LISTS:

The concentrations shown are maximum or ceiling levels (weight %) to be used for calculations for regulations. Trade Secrets are indicated by "TS".

FEDERAL EPA

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center of release of quantities of Hazardous Substances equal to or greater than the reportable quantities (RQs) in 40 CFR 302.4.

Components present in this product at a level which could require reporting under the statute are: None

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III

requires emergency planning based on Threshold Planning Quantities (TPQs) and release reporting based on Reportable Quantities (RQs) in 40 CFR 355 (used for SARA 302, 304, 311 and 312).

Components present in this product at a level which could require reporting under the statute are: None

Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III

requires submission of annual reports of release of toxic chemicals that appear in 40 CFR 372 (for SARA 313). This information must be included in all MSDSs that are copied and distributed for this material.

Components present in this product at a level which could require reporting under the statute are: None

STATE RIGHT-TO-KNOW

CALIFORNIA Proposition 65

None

MASSACHUSETTS Right-To-Know, Substance List (MSL) Hazardous Substances and Extraordinarily Hazardous Substances on the MSL must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:
EXTRAORDINARILY HAZARDOUS SUBSTANCES (=> 0.0001%).

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION %
Isopropanol	67-63-0	100

PENNSYLVANIA Right-To-Know, Hazardous Substance List Hazardous Substances and Special Hazardous Substances on the List must be identified when present in products.

Components present in this product at a level which could require reporting under the statute are:
HAZARDOUS SUBSTANCES (=> 1%)

CHEMICAL	CAS NUMBER	UPPER BOUND CONCENTRATION %
Isopropanol	67-63-0	100

Toxic Substances Control Act(TSCA) STATUS:

The ingredients of this product are on the TSCA inventory.

CALIFORNIA SCAQMD RULE 443.1 VOC'S:

VOC 785 g/l; Vapor Pressure 33 mm Hg @ -20 C

OTHER REGULATORY INFORMATION:

None

NOTE ----

The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

Date: 05/15/89

Revision Date: 06/22/89

Printed in USA

PC: 43062

F NUMBER: C0110

**SAFETY-KLEEN 105 PARTS WASHING SOLVENT
MATERIAL SAFETY DATA SHEET**

SECTION I -- PRODUCT INFORMATION

Safety-Kleen Corporation - 777 Big Timber Road - Elgin, IL 60123
For Product/Sales Information Call 708/697-8460

EMERGENCY TELEPHONE

These numbers are for emergency use only. If you desire non-emergency information about this product, please call the telephone number listed above.

MEDICAL:

800/942-5969 or 312/942-5969
RUSH POISON CONTROL CENTER
CHICAGO, ILLINOIS (24 HOURS)

TRANSPORTATION:

800/424-9300
CHEMTREC

IDENTITY (TRADE NAME): SAFETY-KLEEN 105 PARTS WASHING SOLVENT
SYNONYMS: PETROLEUM DISTILLATES, PETROLEUM NAPHTHA, MINERAL SPIRITS, STODDARD SOLVENT
SK PART NUMBER: 6617
FAMILY/CHEMICAL NAME: HYDROCARBON SOLVENT
PRODUCT USAGE: SOLVENT FOR CLEANING AND DEGREASING PARTS

SECTION II -- HAZARDOUS COMPONENTS

NAME	SYNONYM	%	CAS NO.	OSHA PEL (ppm)	ACGIH TLV (ppm)
Parts Washer Solvent (consists predominantly of C9-C13 hydrocarbon)	Mineral Spirits	(Typical % by Wt.)			
C9-C13 Saturated Hydrocarbon		85	64741-41-9	100 (Stoddard Solvent)	100 (Stoddard Solvent)
*Toluene		0.5	108-88-3	100 150 STEL	100 150 STEL
*Xylene		1.0	1330-20-7	100 150 STEL	100 150 STEL
*Ethyl Benzene		0.5	100-41-4	100 Skin 125 STEL	100 125 STEL
C8+ Aromatics		12.0	Mixture	N/E	N/E
Chlorinated Solvents		(Max 1% by Wt.)			
*1,1,1 Trichloroethane		< 0.5	71-55-6	350 450 STEL	350 450 STEL
*Tetrachloroethylene		< 0.5	127-18-4	25	50 200 STEL

N/E = Not Established

* See Section X - Other Regulatory Information

SECTION III -- PHYSICAL DATA

PHYSICAL STATE, APPEARANCE AND ODOR: Combustible liquid - clear, green, with characteristic hydrocarbon odor.
BOILING POINT: 300° - 429° F

EVAPORATION RATE: (Butyl Acetate = 1) 0.1
PERCENT VOLATILE: 99.9%
VAPOR DENSITY: 4.9 (Air = 1)
VAPOR PRESSURE: 2 mm of Hg at 68° F
SOLUBILITY IN WATER: Negligible
pH: Not Applicable
SPECIFIC GRAVITY: 0.77 to 0.80
MOLECULAR WEIGHT: Approximately 142
VOLATILE ORGANIC COMPOUNDS: 795 g/L

SECTION IV -- FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: 105° F (SETA)
AUTOIGNITION TEMPERATURE: 473° F
CONDITIONS OF FLAMMABILITY: Materials must be moderately heated before ignition can occur.
FLAMMABLE LIMITS IN AIR - LOWER: 0.7% **UPPER:** 6.0%
EXTINGUISHING MEDIA: Carbon dioxide, foam, dry chemical, water (mist only).
FIRE FIGHTING PROCEDURES -- SPECIAL: NFPA 704 Rating 2-2-0

Keep storage tanks cool with water spray. Use self-contained breathing apparatus (SCBA).

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Decomposition and combustion products may be toxic. Heated tanks may rupture, explode or be thrown into the air. Vapors are heavier than air and may travel great distances to ignition source and flashback.

HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition and burning may produce carbon monoxide.

SECTION V -- REACTIVITY DATA

STABILITY: Normally stable even under fire exposure conditions and is not reactive with water. Normal firefighting procedures may be used.
INCOMPATIBILITY (CONDITIONS TO AVOID): Strong oxidizing agents (e.g. chlorine, peroxides, strong acids).
HAZARDOUS POLYMERIZATION: Not known to occur under normal conditions.
HAZARDOUS DECOMPOSITION PRODUCTS: Normally none; however, incomplete burning may yield carbon monoxide.

SECTION VI -- HEALTH HAZARD DATA

PRIMARY ROUTES OF EXPOSURE: Skin and eye contact; inhalation.

HEALTH HAZARD DATA/SIGNS AND SYMPTOMS OF EXPOSURE:

ACUTE: *Skin:* Prolonged or repeated contact tends to remove skin oils, possibly leading to irritation and dermatitis. No significant skin absorption hazard.

Eyes: Contact may cause slight to moderate irritation. High vapor concentrations (> 500 ppm) are irritating to the eyes.

Inhalation: High concentrations of vapor or mist may be irritating to the respiratory tract, cause headaches, dizziness, nausea, impaired coordination, anesthesia and may have other central nervous system effects.

Ingestion: Low order of acute oral toxicity. May cause irritation of the throat, nausea, vomiting and symptoms of central nervous system depression. Aspiration into the lungs during ingestion or vomiting may cause mild to severe pulmonary injury and possibly death.

CHRONIC: Prolonged and/or repeated contact may cause drying and cracking of the skin or dermatitis.

OTHER POTENTIAL HEALTH HAZARDS:

The impurities that may be present are not expected to add significantly to the effects of exposure.

**MEDICAL CONDITIONS
AGGRAVATED BY EXPOSURE:**

Individuals with pre-existing central nervous system dysfunction may have increased susceptibility to the effects of exposure. Contact with skin may aggravate pre-existing dermatitis.

CARCINOGENICITY: Tetrachloroethylene is listed by IARC and NTP as a suspected carcinogen. Studies indicate that Ethyl Benzene and 1,1,1 Trichloroethane are experimental teratogens.

SECTION VII -- EMERGENCY AND FIRST AID PROCEDURES

EYES: For direct contact, flush eyes with water for 15 minutes lifting upper and lower lids occasionally. Consult physician if irritation or pain persists. If irritation or redness from exposure to vapors or mists develop, move victim away from exposure into fresh air.

SKIN: Remove contaminated clothing. Wash skin twice with soap and water. If irritation develops and persists, consult a physician.

INGESTION: If conscious, dilute with 4 to 8 ounces of water and seek immediate medical attention. DO NOT induce vomiting.

INHALATION: Remove to fresh air immediately. Use oxygen if there is difficulty breathing or artificial respiration if respiration has stopped. Do not leave victim unattended. Seek immediate medical attention if necessary.

SECTION VIII -- PRECAUTIONS FOR SAFE USE AND HANDLING

**SPILL
PROCEDURES:** Remove all ignition sources. Ventilate area and avoid breathing vapors. For large spills, isolate area and deny entry. If possible, contain as a liquid for possible re-refining. Absorb onto sand or other absorbent material. Shovel into closable container for disposal. Wear protective equipment specified below. Contain away from surface waters and sewers.

**WASTE DISPOSAL
METHODS:** Dispose in accordance with Federal, State, and local regulations. Contact Safety-Kleen regarding recycling.

**HANDLING
PRECAUTIONS:** Avoid contact with eyes, skin or clothing. Use in well ventilated area and avoid breathing vapors or mists. Keep away from heat, sparks and open flames.

**SHIPPING AND STORING
PRECAUTIONS:** Empty product containers may contain product residue. Do not pressurize, cut, heat, weld, grind or expose containers to flame or other sources of ignition. Keep container tightly closed when not in use and during transport.

**PERSONAL
HYGIENE:**

Use good personal hygiene. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco products. Launder contaminated clothing and clean protective equipment before reuse.

SECTION IX -- CONTROL MEASURES

VENTILATION:

Provide local exhaust or general dilution ventilation as determined necessary to maintain concentrations of vapors or mists below applicable exposure limits. Where explosive mixtures may be present, systems safe for such locations should be used.

**PROTECTIVE
GLOVES:**

Use nitrile or neoprene gloves to prevent contact with skin.

**EYE
PROTECTION:**

Where there is likelihood of spill or splash, wear chemical goggles or faceshield. Contact lenses should not be worn.

**RESPIRATORY
PROTECTION:**

Use NIOSH-approved respiratory protective equipment when concentration of vapors or mists exceeds applicable exposure limit. Depending on the airborne concentration, use a respirator or gas mask with appropriate cartridges and canisters (for organic vapor with mist prefilter). A self-contained breathing apparatus (SCBA) is required for large spills and emergencies. Selection and use of respiratory protective equipment should be in accordance with OSHA General Industry Standard 29 CFR 1910.134 - Respiratory Protection.

**OTHER PROTECTIVE
EQUIPMENT:**

Wear solvent-resistant boots, apron or other protective clothing where spills and splashes are possible. A source of clean water should be available in work areas for flushing the eyes and skin.

SECTION X -- OTHER REGULATORY INFORMATION

DOT PROPER SHIPPING NAME:

Petroleum Naphtha

DOT CLASS:

Combustible Liquid

DOT NUMBER:

UN 1255

SARA TITLE III:

Product contains a toxic chemical or chemicals 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. Toxic constituents are listed with an asterisk in Section II of this Material Safety Data Sheet.

Product poses the following physical and/or health hazard(s) as defined in 40 CFR 370.3 (Sections 311, 312 of SARA Title III):

Immediate (Acute) Health Hazard
Delayed (Chronic) Health Hazard
Fire Hazard

SECTION XI -- PREPARATION INFORMATION

PREPARED BY:

SK Product Review Committee

FORM NO. 900-14-001

ORIGINAL ISSUE DATE: July 20, 1989

REVISED: March 12, 1990 **SUPERSEDES:** July 20, 1989

User assumes all risks incident to the use of this product. To the best of our knowledge, the information contained herein is accurate. However, Safety-Kleen assumes no liability whatsoever for the accuracy or completeness of the information contained herein. No representations or warranties, either express or implied, or merchantability, fitness for a particular purpose or of any other nature are made hereunder with respect to information or the product to which information refers. The data contained on this sheet applies to the material as supplied to the user.



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MATERIAL SAFETY DATA SHEET

EFFECTIVE DATE: APRIL 1, 1985

John Chapman



Union Carbide Corporation urges the customer receiving this Material Safety Data Sheet to study it carefully to become aware of hazards, if any, of the product involved. In the interest of safety you should (1) notify your employees, agents, and contractors of the information on this sheet, (2) furnish a copy to each of your customers for the product, and (3) request your customers to inform their employees and customers as well.

I. IDENTIFICATION

PRODUCT NAME:	BUTYL CELLOSOLVE®		
CHEMICAL NAME:	2-Butoxyethanol	CHEMICAL FAMILY:	Glycol Ethers
FORMULA:	C ₄ H ₉ OC ₂ H ₄ OH	MOLECULAR WEIGHT:	118.18
SYNONYMS:	Ethylene Glycol Monobutyl Ether		
DEPARTMENT OF TRANSPORTATION	Hazard Classification	Combustible liquid	
	Shipping Name	Combustible liquid, NOS	
CAS #	111-76-2	CAS NAME	Ethanol, 2-butoxy

II. PHYSICAL DATA

BOILING POINT, 760 mm Hg	171.2°C (340.2°F)	FREEZING POINT	-70.4°C (-94.7° F)
SPECIFIC GRAVITY (H ₂ O = 1)	0.9022 at 20/20°C	VAPOR PRESSURE at 20°C	0.6 mm Hg
VAPOR DENSITY (air = 1)	4.1	SOLUBILITY IN WATER, % by wt.	Complete
PERCENT VOLATILES BY VOLUME	100	EVAPORATION RATE (Butyl Acetate = 1)	0.08
APPEARANCE AND ODOR	Colorless liquid; mild odor		

III. INGREDIENTS

MATERIAL	%	TLV	HAZARD
2-Butoxyethanol	100	25 ppm (skin) ACGIH 50 ppm (skin) OSHA	Toxic; Eye Irritant; Combustible

IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	150°F, Tag Closed Cup, ASTM D 56; 157°F, Tag Open Cup, ASTM D 1310		
FLAMMABLE LIMITS IN AIR, % by volume	LOWER	1.1	UPPER 10.6
EXTINGUISHING MEDIA	Use water spray, carbon dioxide, dry chemical, alcohol-type, or universal-type foams applied by manufacturers' recommended techniques.		
SPECIAL FIRE FIGHTING PROCEDURES	Use self-contained breathing apparatus and protective clothing.		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None		

EMERGENCY PHONE NUMBER: 1-800-UCC-HELP • This number is available 24 hours, 7 days a week, including weekends and holidays.

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BUTYL CELLOSOLVE®

HEALTH HAZARD DATA

TLV AND SOURCE

25 ppm (skin) ACGIH, 1984-5
50 ppm (skin) OSHA 29 CFR, para. 1910.1000, Table Z-1

EFFECTS OF ACUTE OVEREXPOSURE

SWALLOWING	Moderately toxic. May cause headache, dizziness, incoordination, nausea, vomiting, diarrhea, and general weakness. Ingestion may cause red blood cell hemolysis and possible liver and kidney injury.
SKIN ABSORPTION	Penetrates skin readily. Frequent or widespread contact may result in the absorption of potentially harmful amounts. Signs and symptoms of toxicity are similar to those of swallowing.
INHALATION	High concentrations are irritating to the eyes and respiratory tract. May cause headache, dizziness, nausea, vomiting, and malaise.
SKIN CONTACT	Brief contact with undiluted material may cause slight reddening. More prolonged and widespread contact, as with chemical-saturated clothing, may cause moderate reddening, swelling, and possible damage to the skin.
EYE CONTACT	Causes moderate irritation and possible corneal injury.

EFFECTS OF REPEATED OVEREXPOSURE

Repeated overexposure may cause hemolysis of the red blood cells leading to possible liver and kidney damage.

OTHER HEALTH HAZARDS

Because of its irritating and defatting properties, this material may exacerbate an existing dermatitis.

EMERGENCY AND FIRST AID PROCEDURES:

SWALLOWING	Give two glasses of water and induce vomiting. Call a physician.
SKIN	Remove contaminated clothing and flush skin with water.
INHALATION	Remove to fresh air.
EYES	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention without delay.

NOTES TO PHYSICIAN

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

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BUTYL CELLOSOLVE®

VI. REACTIVITY DATA

STABILITY		CONDITIONS TO AVOID	None
UNSTABLE	STABLE		
	X		
INCOMPATIBILITY (materials to avoid)		Avoid contamination with alkalis.	
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS		Burning can produce carbon monoxide and/or carbon dioxide.	
HAZARDOUS POLYMERIZATION		CONDITIONS TO AVOID	None
May Occur	Will Not Occur		
	X		

VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED	Wear suitable protective equipment. Small spills should be flushed with large quantities of water. Larger spills should be collected for disposal.
WASTE DISPOSAL METHOD	Incinerate in a furnace where permitted under appropriate Federal, State, and local regulations.

VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION	Self-contained breathing apparatus in high concentrations.		
VENTILATION	This product should be handled in covered equipment, in which case general (mechanical) room ventilation is expected to be satisfactory. Special, local ventilation may be needed at points where vapors can be expected to escape to the workplace air.		
PROTECTIVE GLOVES	Rubber	EYE PROTECTION	Monogoggles
OTHER PROTECTIVE EQUIPMENT	Eye bath and safety shower		

IX. SPECIAL PRECAUTIONS

<p>PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING Avoid breathing vapor. Keep away from heat and flame. Avoid contact with eyes, skin, and clothing. Keep container closed. Use with adequate ventilation. Wash thoroughly after handling.</p> <p align="center">FOR INDUSTRY USE ONLY</p> <p>OTHER PRECAUTIONS Laboratory studies indicate that, at very low concentration in water, this product should be rapidly biodegraded in a biological wastewater treatment plant.</p>
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The opinions expressed herein are those of qualified experts within Union Carbide Corporation. We believe that the information contained herein is current as of the date of this Material Safety Data Sheet. Since the use of this information and these opinions and the conditions of use of the product are not within the control of Union Carbide Corporation, it is the user's obligation to determine the conditions of safe use of the product.

*Rec'd
5/89*

MATERIAL SAFETY DATA SHEET

METHYL ETHYL KETONE
MEK

Distributor:
Chemsource, Inc. Emer. Phone Day or Night
P.O. Box 7880 Call Chemtrac--
Newark, DE 19714 (800) 424-9300
Phone: (302) 368-7573

SECTION 1 - PRODUCT IDENTIFICATION

Chemical Name - MEK, 2-Butanol
Product/Trade Name - Methyl Ethyl Ketone
Chemical Family - Ketone
Synonyms -
Molecular Weight -
CAS Registry #/Name - 78-93-3
Formula -
Hazard Rating

FIRE
3

4=Extreme
3=High
2=Moderate
1=Slight
0=Insignificant

HEALTH
1

REACTIVITY
0

SPECIFIC

SECTION 2 - HAZARDOUS INGREDIENTS

Ingredients (Not Specifications)	Percent	TLV (Units)
Methyl Ethyl Ketone	100.00	Oral LD50 (Rat) = 3.3 G/KG
	.00	Dermal LD50 (Rabbit) = > 8 ML/KG
	.00	Inhalation LC50 (Rat) = 2,000 PPM/2 Hrs.

SECTION 3 - PHYSICAL DATA

Boiling Point - 175 Deg. F Vapor Pressure - 75 MM HG @ 68 F
Freezing Point - C Vapor Density (Air=1) - 2.5
F Solubility In Water - Appreciable
C SP Gravity (Water=1) - 0.81 @ 60/60 F
% Volatile by Volume - 100
Evaporation Rate - (BUAC =1) 3.8
PH of Undiluted Product -
State - Liquid
Appearance and Odor - Colorless, mobile liquid. Pungent odor.
Melting Point - -125 Deg. F

SECTION 4 - FIRE & EXPLOSION HAZARD DATA

Flash Point (Method Used) - 23 Deg. F TCC
 Flammable Limits - Lower=1.8 Upper=11.5
 Fire Extinguishing Media - Use water fog, "alcohol" foam, dry
 chemical or CO2.
 Special Fire Fighting Procedures - Evacuate hazard area of
 unprotected personnel. Wear proper protective clothing
 including a NIOSH approved self-contained breathing
 apparatus. Cool fire-exposed containers with water.
 Unusual Fire & Explosion Hazards -
 Ignition Temperature -
 Products Evolved When Subject To Heat Or Combustion -

SECTION 5 - HEALTH HAZARD DATA

Threshold Limit Value - TLV/TWA = 200 PPM TLV/STEL = 300 PPM
 OSHA-PEL/TWA = 200 PPM

Effects of Overexposure -

- Eye Contact - Liquid is highly irritating to the eyes,
 vapors are also irritating.
- Skin Contact - Liquid is moderately irritating to the skin.
 Repeated, prolonged contact can result in defatting and
 drying of the skin which may lead to dermatitis.
- Inhalation - Breathing high vapor concentrations can cause
 nose and throat irritation and may cause headache,
 dizziness and loss of concentration.
- Note - Minor Embryotoxic/Fetotoxic effects have been
 observed in laboratory rats exposed to over 1000 ppm of
 MEK for most of the gestation period by the inhalation
 route (5X the OSHA-PEL/TWA).

Emergency & First Aid Procedures -

- Eye Contact - Flush with water for 15 minutes while holding
 eyelids open. Get medical attention.
- Skin Contact - Wash with soap and water. Remove
 contaminated clothing and shoes. Do not reuse until
 cleaned. If persistent irritation occurs, get medical
 attention.
- Inhalation - Remove victim to fresh air and provide oxygen
 if breathing is difficult. Give artificial respiration
 if not breathing. Get medical attention.
- Ingestion - Do not give liquids if victim is unconscious or
 very drowsy. Otherwise, give no more than 2 glasses of
 water. Induce vomiting by giving 30 CC which is 2
 tablespoons Syrup of Ipecac. If Ipecac is unavailable,
 give 2 glasses of water and induce vomiting by touching
 finger to back of victim's throat. Keep victim's head
 below hips while vomiting. Get medical attention.

Note To The Physician -

Chronic Effects Of Overexposure -
 Other Health Hazards -

SECTION 6 - REACTIVITY DATA

Stability - Stable-X Unstable-
 Conditions To Avoid -

Incompatibility (Materials To Avoid) - Avoid heat, sparks, open flame and contact with strong oxidizing agents.

Hazardous Combustion or Decomposition Products - Carbon Monoxide and unidentified organic compounds may be formed during combustion.

Hazardous Polymerization - May Occur- Will Not Occur-X
Conditions To Avoid -

SECTION 7 - SPILL, LEAK, AND WASTE DISPOSAL PROCEDURES

Steps To Be Taken In Case Material Is Released Or Spilled -

Warning! Flammable. Eliminate all sources of ignition.

Handling equipment must be grounded to prevent sparking.

Large Spills - Evacuate the hazard area of unprotected personnel. Wear appropriate respirator and protective clothing. Shut off source of leak only if safe to do so. Dike and contain. If vapor cloud forms, water fog may be used to suppress; contain run-off. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material; place in non-leaking containers for proper disposal. Flush area with water to remove trace residue; dispose of flush solutions as above.

Small Spills - Take up with an absorbent material and place in non-leaking containers; seal tightly for proper disposal.

Waste Disposal Methods - Place in a disposal facility approved under RCRA regulations for hazardous waste. Use non-leaking container, seal tightly and label properly.

SECTION 8 - SPECIAL PROTECTION INFORMATION

Respiratory Protection (Specify Type) - If exposure may or does exceed occupational exposure limits, use NIOSH-approved respirator to prevent overexposure. In accord with 20 CFR 1910.134 either an atmosphere-supplying or an air-purifying/org vapor.

Ventilation -

Protective Clothing - Wear protective clothing to prevent skin contact.

Protective Gloves - Impervious gloves.

Eye Protection - Wear protective goggles to prevent eye contact.

Other Protective Equipment -

SECTION 9 - SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling And Storage - Warning! Flammable liquid. Keep away from heat, sparks and open flames. Keep containers tightly closed. Store away from strong oxidizing agents in a cool, dry place with adequate explosion-proof ventilations. Ground equipment to prevent accumulation of static charge. If pouring or transferring materials, containers must be bonded and grounded. Do not

weld, heat or drill on or near container; even emptied containers can contain explosive vapors. Wash off with soap and water before eating, drinking, smoking or using toilet facilities.

Other Precautions -

Precautionary Label - Flammable Liquid

DOT Shipping Name - Methyl Ethyl Ketone

DOT ID No. UN1193, Guide Sheet 26

SECTION 10 - ADDITIONAL INFORMATION

Additional Information -

SECTION 11 - REQUIREMENTS FOR TRANSPORTATION

Proper Shipping Name - Methyl Ethyl Ketone

Hazardous Classification - Flammable Liquid

Identification Number - UN1193

Reportable Quantity - No

IMCO Class (International Travel) -

Additional Labeling -
