

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

DATE OF PREP. 01-06-94 PREPARED BY: Regulatory Dept.

HAZARD RATINGS:
HEALTH 2 MODERATE
FLAMMABILITY 3 SERIOUS
REACTIVITY 0 MINIMAL

SECTION I

MANUFACTURER'S NAME:

Sun Chemical Corporation
631 Central Avenue, Carlstadt, N J 07072
EMER TEL NO: 201-933-4500 Regulatory Dept.

Query Labels

TRADE NAME: SUNSHEEN REFLEX BLUE

PRODUCT CLASS: SOLVENT INK OR LACQUER

PRODUCT IDENTIFICATION CODE S84-5030-B

08-0004

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	AMT (Wt. %)	CAS NO	ACGIH/TLV/STEL	OSHA/PEL
ISOPROPYL ALCOHOL	3.7	67-63-0	400 / 500	400
N-PROPYL ALCOHOL	4.2	71-23-8	200/SKIN / 250/SKIN	200
ETHYL ALCOHOL	28.1	64-17-5	1000 / NONE EST	1000
N-PROPYL ACETATE	5.2	109-60-4	200 / 250	200
HEPTANE	14.8	142-82-5	400 / 500	400
DIBUTYL PHTHALATE	* ** 1.0	84-74-2	5mg/m ³ / NONE EST	5mg/m ³

* denotes items listed in SARA ** denotes items listed under CAA as HAPS

SECTION III - PHYSICAL DATA

BOILING RANGE °F: 173 - 215

PERCENT VOLATILE WT%: 56.7

LIQUID DENSITY VS WATER: LIGHTER

EVAPORATION RATE VS. BUTYL ACETATE: FASTER

VAPOR DENSITY VS. AIR: HEAVIER

APPEARANCE: BLUE LIQUID

DENSITY (LBS/GAL): 7.65

SECTION IV - FIRE AND EXPLOSION DATA

LOWEST FLASH POINT °F: 25

LOWER EXPLOSION LIMIT - VOL%: 1.1

OSHA: IB - FLAMMABLE

DOT: FLAMMABLE LIQUID

EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may ignite explosively. Vapors may spread long distances. Exposure of closed containers to excess heat during fire may cause disruptive pressure.

SPECIAL FIREFIGHTING PROCEDURES: Use water to keep containers cool. The use of SCBA and protective clothing is recommended for fire fighters.

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THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Eye contact will cause irritation. Skin contact will cause defatting which can lead to dermatitis. Inhalation of vapors can cause headaches, nausea and irritation of nose and throat. Chronic exposure above the exposure limit can cause injury to the central nervous system and can cause other systemic effects.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin, respiratory disorders.

TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, GI TRACT, PERIPHERAL NERVOUS SYS.

PRIMARY ROUTES OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT - Flush with water for 15 minutes - if irritation persists, get medical attention.
SKIN CONTACT - Wash well with soap and water - use suitable handcream.
INHALATION - Remove individual to fresh air. INGESTION - Call physician immediately.

SECTION VI - REACTIVITY DATA

PRODUCT STABILITY: STABLE

CONDITIONS TO AVOID: Avoid contact with strong acids or oxidizers.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURE WHEN MATERIAL SPILLED OR RELEASED:

Remove by using suitable inert absorbing materials.
Eliminate all sources of vapor ignition. Ventilate area.

WASTE DISPOSAL METHOD: In accordance with applicable local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION: Use sufficient local and general ventilation to maintain vapor concentrations below stated exposure limits.

PROTECTIVE ITEMS: Impervious gloves and safety glasses or goggles should be worn during handling procedures where splashing is possible.

RESPIRATORY PROTECTION: If exposure limits are exceeded a supplied air respirator should be worn.

OTHER PROTECTIVE EQUIPMENT: Protective clothing to prevent body contact.

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE: Keep containers closed when not in use.
Keep away from excessive heat. Avoid freezing.

OTHER PRECAUTIONS: NONE KNOWN

COMPLETE VOC (VOLATILE ORGANIC COMPOUND) BREAKDOWN

SUN CHEMICAL CORP CODE ID#: S84-5030-B [% BY WEIGHT OF TOTAL FORMULA]

SOLIDS	43.3
ISOPROPYL ALCOHOL	3.7
N-PROPYL ALCOHOL	4.2
ETHYL ALCOHOL	28.1
N-PROPYL ACETATE	5.2
HEPTANE	14.8
TOLUENE	0.5
TOTAL	100.0

VOC DENSITY IN LB/GAL	6.46
SOLIDS DENSITY IN LB/GAL	10.08
VOLATILES DENSITY IN LB/GAL	6.46

VOC'S AS PERCENTAGE OF INK		VOC'S AS PERCENTAGE OF LIQUID	
WEIGHT %	56.7	WEIGHT %	100.0
VOLUME %	67.1	VOLUME %	100.0

INFORMATION FOR WEST COAST VOC RULES

1. LBS VOC'S PER GALLON INK LESS WATER LESS EXEMPT SOLVENT: 4.3
GMS VOC'S PER LITER INK LESS WATER LESS EXEMPT SOLVENT: 520.0
 2. LBS VOC'S PER GALLON INK: 4.3
GMS VOC'S PER LITER INK: 520.0
 3. DENSITY OF INK IN LBS PER GALLON: 7.65
 4. % WATER IN INK BY WEIGHT: 0.0
 5. % EXEMPT SOLVENT IN INK BY WEIGHT: 0.0
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VOLUME % WATER	0.0
VOLUME % SOLIDS	32.9
LBS VOC'S PER GALLON SOLIDS	13.2

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MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

08-0008
8-A

HAZARD RATINGS:
HEALTH 2 MODERATE
FLAMMABILITY 3 SERIOUS
REACTIVITY 0 MINIMAL

DATE OF PREP. 08-12-94 PREPARED BY: Regulatory Dept.

SECTION I

UP DATE 8-16-94

Curry Labels

MANUFACTURER'S NAME:

Sun Chemical Corporation
631 Central Avenue, Carlstadt, N J 07072
EMER TEL NO: 201-933-4500 Regulatory Dept.

TRADE NAME: LITHO RUBINE RED

PRODUCT CLASS: SOLVENT INK OR LACQUER

PRODUCT IDENTIFICATION CODE S93-4871-B

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	AMT (Wt. %)	CAS NO	ACGIH/TLV/STEL	OSHA/PEL
ISOPROPYL ALCOHOL	7.2	67-63-0	400 / 500	400
N-PROPYL ALCOHOL	3.8	71-23-8	200/SKIN / 250/SKIN	200
ETHYL ALCOHOL	28.0	64-17-5	1000 / NONE EST	1000
N-PROPYL ACETATE	5.2	109-60-4	200 / 250	200
HEPTANE	20.7	142-82-5	400 / 500	400
DIBUTYL PHTHALATE	* ** 1.0	84-74-2	5mg/m ³ / NONE EST	5mg/m ³

* denotes items listed in SARA ** denotes items listed under CAA as HAPS

SECTION III - PHYSICAL DATA

BOILING RANGE °F: 173 - 215

PERCENT VOLATILE WT%: 65.6

LIQUID DENSITY VS WATER: LIGHTER

EVAPORATION RATE VS. BUTYL ACETATE: FASTER

VAPOR DENSITY VS. AIR: HEAVIER

APPEARANCE: RED LIQUID

DENSITY (LBS/GAL): 7.70

SECTION IV - FIRE AND EXPLOSION DATA

LOWEST FLASH POINT °F: 25

LOWER EXPLOSION LIMIT - VOL%: 1.1

OSHA: IB - FLAMMABLE

DOT: FLAMMABLE LIQUID

EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may ignite explosively. Vapors may spread long distances. Exposure of closed containers to excess heat during fire may cause disruptive pressure.

SPECIAL FIREFIGHTING PROCEDURES: Use water to keep containers cool. The use of SCBA and protective clothing is recommended for fire fighters.

THIS PRODUCT CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

SECTION V - HEALTH HAZARD DATA

08-0008

EFFECTS OF OVEREXPOSURE: Eye contact will cause irritation. Skin contact will cause defatting which can lead to dermatitis. Inhalation of vapors can cause headaches, nausea and irritation of nose and throat. Chronic exposure above the exposure limit can cause injury to the central nervous system and can cause other systemic effects.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin, respiratory disorders.

TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, GI TRACT, PERIPHERAL NERVOUS SYS.

PRIMARY ROUTES OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT - Flush with water for 15 minutes - if irritation persists, get medical attention.

SKIN CONTACT - Wash well with soap and water - use suitable handcream.

INHALATION - Remove individual to fresh air. INGESTION - Call physician immediately.

SECTION VI - REACTIVITY DATA

PRODUCT STABILITY: STABLE

CONDITIONS TO AVOID: Avoid contact with strong acids or oxidizers.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURE WHEN MATERIAL SPILLED OR RELEASED:

Remove by using suitable inert absorbing materials.

Eliminate all sources of vapor ignition. Ventilate area.

WASTE DISPOSAL METHOD: In accordance with applicable local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION: Use sufficient local and general ventilation to maintain vapor concentrations below stated exposure limits.

PROTECTIVE ITEMS: Impervious gloves and safety glasses or goggles should be worn during handling procedures where splashing is possible.

RESPIRATORY PROTECTION: If exposure limits are exceeded a supplied air respirator should be worn.

OTHER PROTECTIVE EQUIPMENT: Protective clothing to prevent body contact.

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE: Keep containers closed when not in use.
Keep away from excessive heat. Avoid freezing.

OTHER PRECAUTIONS: NONE KNOWN

COMPLETE VOC (VOLATILE ORGANIC COMPOUND) BREAKDOWN

08-0008

SUN CHEMICAL CORP CODE ID#:	S83-4871-B	[% BY WEIGHT OF TOTAL FORMULA]
SOLIDS		34.4
ISOPROPYL ALCOHOL		7.2
N-PROPYL ALCOHOL		3.8
ETHYL ALCOHOL		28.0
N-PROPYL ACETATE		5.2
HEPTANE		20.7
TOLUENE		0.7
TOTAL		100.0

VOC DENSITY IN LB/GAL	6.40
SOLIDS DENSITY IN LB/GAL	12.59
VOLATILES DENSITY IN LB/GAL	6.40

VOC'S AS PERCENTAGE OF INK		VOC'S AS PERCENTAGE OF LIQUID	
WEIGHT %	65.6	WEIGHT %	100.0
VOLUME %	79.0	VOLUME %	100.0

INFORMATION FOR WEST COAST VOC RULES

1. LBS VOC'S PER GALLON INK LESS WATER LESS EXEMPT SOLVENT: 5.1
GMS VOC'S PER LITER INK LESS WATER LESS EXEMPT SOLVENT: 606.1
2. LBS VOC'S PER GALLON INK: 5.1
GMS VOC'S PER LITER INK: 606.1
3. DENSITY OF INK IN LBS PER GALLON: 7.70
4. % WATER IN INK BY WEIGHT: 0.0
5. % EXEMPT SOLVENT IN INK BY WEIGHT: 0.0

VOLUME % WATER	0.0
VOLUME % SOLIDS	21.0
LBS VOC'S PER GALLON SOLIDS	24.0

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

HAZARD RATINGS:
HEALTH 2 MODERATE
FLAMMABILITY 3 SERIOUS
REACTIVITY 0 MINIMAL

DATE OF PREP. 06/06/91 PREPARED BY: Regulatory Dept.

SECTION I

MANUFACTURER'S NAME: **08-0303**

Sun Chemical Corporation
631 Central Avenue, Carlstadt, N J 07072
EMER TEL NO: 201-933-4500 Regulatory Dept.

TRADE NAME: SUNSHARP G/S CYAN BLUE

PRODUCT CLASS: SOLVENT INK OR LACQUER

MANUFACTURER'S CODE IDENTIFICATION RLA51181F/S

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	AMT	CAS NO	ACGIH/TLV/STEL	OSHA/PEL
N-PROPYL ALCOHOL	42.0	71-23-8	200/SKIN / 250/SKIN	200
ETHYL ALCOHOL	1.4	64-17-5	1000 / NONE EST	1000
ISOPROPYL ACETATE	1.1	108-21-4	250 / 310	250
N-PROPYL ACETATE	4.1	109-60-4	200 / 250	200
HEPTANE	1.2	142-82-5	400 / 500	400
TOLUENE	5.0	108-88-3	100 / 150	100

* denotes items listed in SARA AMT = percent by weight of ingredient in total formula

SECTION III - PHYSICAL DATA

BOILING RANGE °F: 173 - 231 PERCENT VOLATILE WT%: 56.7
 LIQUID DENSITY VS WATER: LIGHTER EVAPORATION RATE VS. BUTYL ACETATE: FASTER
 VAPOR DENSITY VS. AIR: HEAVIER APPEARANCE: BLUE LIQUID

SECTION IV - FIRE AND EXPLOSION DATA

LOWEST FLASH POINT °F: 25 LOWER EXPLOSION LIMIT - VOL%: 1.0
 OSHA: I B DOT: FLAMMABLE
 EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may ignite explosively. Vapors may spread long distances. Exposure of closed containers to excess heat during fire may cause disruptive pressure.

SPECIAL FIREFIGHTING PROCEDURES: Use water to keep containers cool.

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SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Eye contact will cause irritation. Skin contact will cause defatting which can lead to dermatitis. Inhalation of vapors can cause headaches, nausea and irritation of nose and throat. Chronic exposure above the TLV can cause injury to the central nervous system and can cause other systemic effects.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disease, respiratory disorders.

TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, KIDNEYS, LIVER, GI TRACT, PERIPHERAL NERVOUS SYS.

PRIMARY ROUTES OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT - Flush with water for 15 minutes - if irritation persists, get medical attention.

SKIN CONTACT - Wash well with soap and water - use suitable handcream.

INHALATION - Remove individual to fresh air. **INGESTION -** Call physician immediately.

SECTION VI - REACTIVITY DATA

PRODUCT STABILITY: STABLE

CONDITIONS TO AVOID: Avoid contact with strong acids or oxidizers.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURE WHEN MATERIAL SPILLED OR RELEASED:

Remove by using suitable inert absorbing materials.

Eliminate all sources of vapor ignition. Ventilate area.

WASTE DISPOSAL METHOD: In accordance with applicable local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION: Use sufficient local and general ventilation to maintain vapor concentrations below stated TLVs and LEL.

PROTECTIVE ITEMS: Impervious gloves and goggles or face shield should be worn during handling procedures where splashing is possible.

RESPIRATORY PROTECTION: None required under normal operating conditions.

OTHER PROTECTIVE EQUIPMENT: Protective clothing to prevent body contact.

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE: Keep containers closed when not in use.
Keep away from excessive heat. Avoid freezing.

OTHER PRECAUTIONS: NONE KNOWN

COMPLETE VOC (VOLATILE ORGANIC COMPOUND) BREAKDOWN

SUN CHEMICAL CORP CODE ID#: RLA51181F/S [% BY WEIGHT OF TOTAL FORMULA]

SOLIDS	43.3
WATER	0.8
METHYL ALCOHOL	0.2
ISOPROPYL ALCOHOL	0.9
N-PROPYL ALCOHOL	42.0
ETHYL ALCOHOL	1.4
ISOPROPYL ACETATE	1.1
N-PROPYL ACETATE	4.1
HEPTANE	1.2
TOLUENE	5.0
TOTAL	100.0

VOC DENSITY IN LB/GAL	6.78
SOLIDS DENSITY IN LB/GAL	9.97
VOLATILES DENSITY IN LB/GAL	6.79

VOC'S AS PERCENTAGE OF INK

WEIGHT %	55.9
VOLUME %	65.0

VOC'S AS PERCENTAGE OF LIQUID

WEIGHT %	98.6
VOLUME %	98.9

INFORMATION FOR WEST COAST VOC RULES

1. LBS VOC'S PER GALLON INK LESS WATER LESS EXEMPT SOLVENT: 4.4
GMS VOC'S PER LITER INK LESS WATER LESS EXEMPT SOLVENT: 532.6
2. LBS VOC'S PER GALLON INK: 4.4
GMS VOC'S PER LITER INK: 528.6
3. DENSITY OF INK IN LBS PER GALLON: 7.88
4. % WATER IN INK BY WEIGHT: 0.8
5. % EXEMPT SOLVENT IN INK BY WEIGHT: 0.0

0303-E

MATERIAL SAFETY DATA SHEET

FOR PRINTING INK AND RELATED MATERIALS

HAZARD RATINGS:
HEALTH 2 MODERATE
FLAMMABILITY 3 SERIOUS
REACTIVITY 1 SLIGHT

DATE OF PREP. 04/10/92 PREPARED BY: Regulatory Dept.

SECTION I

MANUFACTURER'S NAME: 08-0016

Sun Chemical Corporation
631 Central Avenue, Carlstadt, N J 07072
EMER TEL NO: 201-933-4500 Regulatory Dept.

TRADE NAME: SUNSHEEN OPAQUE WARM RED

PRODUCT CLASS: SOLVENT INK OR LACQUER

MANUFACTURER'S CODE IDENTIFICATION RL87-4892-B

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	AMT	CAS NO	ACGIH/TLV/STEL	OSHA/PEL
ISOPROPYL ALCOHOL	2.7	67-63-0	400 / 500	400
N-PROPYL ALCOHOL	3.4	71-23-8	200/SKIN / 250/SKIN	200
ETHYL ALCOHOL	28.0	64-17-5	1000 / NONE EST	1000
N-PROPYL ACETATE	7.4	109-60-4	200 / 250	200
HEPTANE	12.1	142-82-5	400 / 500	400
BARIUM COMPOUND	9.3	7585-41-3	N/A / N/A	N/A

* denotes items listed in SARA AMT = percent by weight of ingredient in total formula

SECTION III - PHYSICAL DATA

BOILING RANGE °F: 173 - 215 PERCENT VOLATILE WT%: 53.9
LIQUID DENSITY VS WATER: HEAVIER EVAPORATION RATE VS. BUTYL ACETATE: FASTER
VAPOR DENSITY VS. AIR: HEAVIER APPEARANCE: RED LIQUID

SECTION IV - FIRE AND EXPLOSION DATA

LOWEST FLASH POINT °F: 25 LOWER EXPLOSION LIMIT - VOL%: 1.1
OSHA: I B DOT: FLAMMABLE

EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may ignite explosively. Vapors may spread long distances. Exposure of closed containers to excess heat during fire may cause disruptive pressure.

SPECIAL FIREFIGHTING PROCEDURES: Use water to keep containers cool.

SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Eye contact will cause irritation. Skin contact will cause defatting which can lead to dermatitis. Inhalation of vapors can cause headaches, nausea and irritation of nose and throat. Chronic exposure above the TLV can cause injury to the central nervous system and can cause other systemic effects.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin disease, respiratory disorders.

TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, GI TRACT, PERIPHERAL NERVOUS SYS.

PRIMARY ROUTES OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES:

EYE CONTACT - Flush with water for 15 minutes - if irritation persists, get medical attention.
SKIN CONTACT - Wash well with soap and water - use suitable handcream.
INHALATION - Remove individual to fresh air. **INGESTION** - Call physician immediately.

SECTION VI - REACTIVITY DATA

PRODUCT STABILITY: STABLE

CONDITIONS TO AVOID: Avoid contact with strong acids or oxidizers.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURE WHEN MATERIAL SPILLED OR RELEASED:
Remove by using suitable inert absorbing materials.
Eliminate all sources of vapor ignition. Ventilate area.

WASTE DISPOSAL METHOD: In accordance with applicable local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION: Use sufficient local and general ventilation to maintain vapor concentrations below stated TLVs and LEL.

PROTECTIVE ITEMS: Impervious gloves and goggles or face shield should be worn during handling procedures where splashing is possible.

RESPIRATORY PROTECTION: None required under normal operating conditions.

OTHER PROTECTIVE EQUIPMENT: Protective clothing to prevent body contact.

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE: Keep containers closed when not in use.
Keep away from excessive heat. Avoid freezing.

OTHER PRECAUTIONS: NONE KNOWN

COMPLETE VOC (VOLATILE ORGANIC COMPOUND) BREAKDOWN

SUN CHEMICAL CORP CODE ID#: RL87-4892-B [% BY WEIGHT OF TOTAL FORMULA]

SOLIDS	46.1
ISOPROPYL ALCOHOL	2.7
N-PROPYL ALCOHOL	3.4
ETHYL ALCOHOL	28.0
N-PROPYL ACETATE	7.4
HEPTANE	12.1
TOLUENE	0.2
TOTAL	100.0

VOC DENSITY IN LB/GAL	6.52
SOLIDS DENSITY IN LB/GAL	13.11
VOLATILES DENSITY IN LB/GAL	6.52

VOC'S AS PERCENTAGE OF INK

WEIGHT %	53.9
VOLUME %	70.2

VOC'S AS PERCENTAGE OF LIQUID

WEIGHT %	100.0
VOLUME %	100.0

INFORMATION FOR WEST COAST VOC RULES

1. LBS VOC'S PER GALLON INK LESS WATER LESS EXEMPT SOLVENT: 4.6
GMS VOC'S PER LITER INK LESS WATER LESS EXEMPT SOLVENT: 548.5
 2. LBS VOC'S PER GALLON INK: 4.6
GMS VOC'S PER LITER INK: 548.5
 3. DENSITY OF INK IN LBS PER GALLON: 8.48
 4. % WATER IN INK BY WEIGHT: 0.0
 5. % EXEMPT SOLVENT IN INK BY WEIGHT: 0.0
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16-C

MATERIALS SAFETY DATA BULLETIN

Avery

POLYETHYLENE (LOW DENSITY)



Westlake Polymers Corporation

02-0000
CC-3
AA-7

WESTLAKE POLYMERS CORPORATION
WESTLAKE CENTER
2801 POST OAK BOULEVARD
HOUSTON, TX 77056
(713) 960-9111

PRODUCT IDENTIFICATION

Avery

Suppliers: WESTLAKE POLYMERS CORP.	Chemical Names and Synonyms: POLYETHYLENE (LOW DENSITY)	Emergency Telephone: 1-318-882-0273
Use or Description: FILM EXTRUSION, MOLDING, COATING, LAMINATING		

COMPONENTS AND EXPOSURE LIMITS

Component: POLYETHYLENE (CAS 9002-88-4)	% Volume: 100%	Exposure Limits: 15.0 mg/m ³ OSHA NUISANCE DUST
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TYPICAL PROPERTIES

Appearance: TRANSLUCENT PELLETS	Boiling Point: NA	Solubility in Water: NEGLIGIBLE
PH: NA	Odor: MILD	Vapor Pressure: NA
%Volatility by Weight: 0.1 MAX	Specific Gravity: 0.91-1.05	Vapor Density: NA
Evaporation Rate: NA	Melting Point: F(C) 230(110)	Molecular Weight: AVERAGE 125,000

FIRE AND EXPLOSION HAZARDS

Auto Ignition Temperature: NA	Flash Point: NONE	Flammable Limits in Air: NA
NFPA Hazard: 0-1-0-NA	HMIS Rating: 0-1-0	
Extinguishing Media: CARBON DIOXIDE, FOAM, DRY CHEMICAL, AND WATER FOG		
Special Fire Fighting Procedures: DO NOT ENTER ENCLOSED SPACE WITHOUT USING SELF-CONTAINED BREATHING APPARATUS		
Unusual Fire and Explosion Hazards: BULK STORAGE OF POLYETHYLENE PELLETS MAY RESULT IN THE ACCUMULATION OF ETHYLENE GAS WITH POSSIBLE EXPLOSIVE POTENTIAL; CONCENTRATION OF ETHYLENE GAS MUST BE KEPT BELOW THE LOWER LIMIT (LEL) OF 2.7%		

HEALTH HAZARDS

Acute Health Effects: EYES: DUST MAY CAUSE IRRITATION OR REDNESS; FUMES FROM MOLTEN PRODUCT MAY CAUSE IRRITATION OR REDNESS SKIN: PRODUCT AS IS SHOULD NOT CAUSE IRRITATION OR DERMATITIS; MOLTEN PRODUCT MAY CAUSE THERMAL BURNS INHALATION: INHALATION OF FINES OR FUMES FROM MOLTEN PRODUCT MAY CAUSE IRRITATION TO THE NOSE OR THROAT INGESTION: NOT EXPECTED TO CAUSE ADVERSE REACTION IF INGESTED		
Chronic Health Effects: NONE ARE KNOWN	Medical Conditions Aggravated by Exposure: NONE ARE KNOWN	Primary Routes of Entry: INHALATION, INGESTION
Cardiogenicity Status: Occupational Safety and Health Administration: NOT LISTED National Toxicity Program: NOT LISTED International Agency for Research on Cancer: NOT LISTED		
Toxicological Data: NON-TOXIC BASED ON STUDIES OF SIMILAR PRODUCTS AND THEIR COMPONENTS		

FIRST AID PROCEDURES

Eyes: FLUSH WITH PLENTY OF WATER; IF IRRITATION CONTINUES; GET MEDICAL ATTENTION	
skin: WASH SKIN WITH SOAP AND WATER; FOR THERMAL BURNS, COOL MOLTEN MATERIALS WITH WATER AND GET MEDICAL ATTENTION	
Inhalation: IF OVERCOME BY DUST OR FUMES, REMOVE TO FRESH AIR; IF BREATHING IS DIFFICULT, GIVE OXYGEN AND GET MEDICAL ATTENTION; IF VICTIM HAS STOPPED BREATHING, GIVE ARTIFICIAL RESPIRATION AND GET MEDICAL ATTENTION	
Ingestion: NO FIRST AID MEASURES SHOULD BE NECESSARY	

31-A

PERSONAL PROTECTION

Respirator: WEAR DUST MASK IF DUST LEVELS EXCEED 15.0 mg/m³

Skin: PROTECTIVE GLOVES AND LONG SLEEVES WHEN HANDLING MOLTEN MATERIAL

Eyes: SAFETY GLASSES SHOULD BE WORN AT ALL TIMES; SAFETY GOGGLES SHOULD BE WORN WHEN HANDLING MOLTEN MATERIAL

Ventilation: LOCAL VENTILATION IS RECOMMENDED TO REDUCE DUST AND FUMES WHEN HANDLING MOLTEN MATERIAL

REACTIVITY DATA

Hazardous Thermal Decomposition Products: INCOMPLETE COMBUSTION MAY PRODUCE CARBON DIOXIDE, CARBON MONOXIDE, and ALDEHYDES

Stability: MATERIAL IS STABLE

Incompatible Materials: THIS MATERIAL IS INCOMPATIBLE WITH STRONG OXIDIZERS

Hazardous Materials: NONE ARE KNOWN

Hazardous Polymerization: WILL NOT OCCUR

SPILL LEAK AND DISPOSAL PROCEDURES

Spill and Leak Procedures: SWEEP OR SHOVEL UP AND HOLD FOR DISPOSAL

Site Management Procedures: PRODUCT IS NON-HAZARDOUS IN ITS NEAT FORM

Environmental Impact: THIS MATERIAL IS NOT EXPECTED TO PRESENT ANY ENVIRONMENTAL PROBLEMS

ADDITIONAL PRECAUTIONS

Storage: STORE IN A VENTILATED AREA AWAY FROM SOURCES OF IGNITION; DO NOT STORE WITH INCOMPATIBLE MATERIALS

Transfer: STATIC GROUNDING RECOMMENDED PRIOR TO TRANSFER OF PRODUCT

REGULATORY DATA

Occupational Safety and Health Administration: NUISANCE DUST

Resource Conservation Recovery Act: NOT REGULATED

Superfund Amendments Reauthorization Act: NOT REGULATED

Proposition 65: NOT REGULATED

Department of Transportation: NOT REGULATED

USER RESPONSIBILITY

This bulletin cannot cover all possible situations which the user may experience during processing. Each aspect of the user's operation should be examined to determine if, or where, additional actions may be necessary. All health and safety information contained in this bulletin should be provided to employees and/or customers. Westlake Polymers Corporation must rely on the user to use this information to develop appropriate work practice guidelines and employee instructional programs specific to the user's operations.

As the conditions and methods of use are beyond our control, we do not assume any responsibility and expressly disclaim any liability for any use of this material. Information contained herein is believed to be true and accurate, but all statements or suggestions are made without warranty, expressed or implied, regarding accuracy of the information, the hazards connected with the use of the material or the results to be obtained from the use thereof. Compliance with all applicable federal, state, and local laws and regulations regarding the use, storage, sale, transport or disposal of this material is the responsibility of the user.

31-B

MATERIAL SAFETY DATA SHEET

08-0227

FOR PRINTING INK AND RELATED MATERIALS

DATE OF PREP. 06-27-94 PREPARED BY: Regulatory Dept.

HAZARD RATINGS:
 HEALTH 2 MODERATE
 FLAMMABILITY 3 SERIOUS
 REACTIVITY 0 MINIMAL

Perry

SECTION I

MANUFACTURER'S NAME: Sun Chemical Corporation
 631 Central Avenue, Carlstadt, N J 07072
 EMER TEL NO: 201-933-4500 Regulatory Dept.

TRADE NAME: FLEKO WRITE-ON WHITE

PRODUCT CLASS: SOLVENT INK OR LACQUER

PRODUCT IDENTIFICATION CODE RLB11121F/S

SECTION II - HAZARDOUS INGREDIENTS

INGREDIENT	AMT (Wt. %)	CAS NO	ACGIH/TLV/STEL	OSHA/PEL
ISOPROPYL ALCOHOL	6.3	67-63-0	400 / 500	400
N-PROPYL ALCOHOL	2.4	71-23-8	200/SKIN / 250/SKIN	200
ETHYL ALCOHOL	24.4	64-17-5	1000 / NONE EST	1000
N-PROPYL ACETATE	7.3	109-60-4	200 / 250	200
PROPYLENE GLYCOL MONOMETHYL ETHER	2.0	107-98-2	100 / 150	100

SECTION III - PHYSICAL DATA

BOILING RANGE °F: 173 - 249 PERCENT VOLATILE WT%: 43.1
 LIQUID DENSITY VS WATER: HEAVIER EVAPORATION RATE VS. BUTYL ACETATE: FASTER
 VAPOR DENSITY VS. AIR: HEAVIER APPEARANCE: WHITE LIQUID
 DENSITY (LBS/GAL): 9.76

SECTION IV - FIRE AND EXPLOSION DATA

LOWEST FLASH POINT °F: 53 LOWER EXPLOSION LIMIT - VOL%: 1.6
 OSHA: IB - FLAMMABLE DOT: FLAMMABLE LIQUID
 EXTINGUISHING MEDIA: FOAM CO2 DRY CHEMICAL

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors may ignite explosively. Vapors may spread long distances. Exposure of closed containers to excess heat during fire may cause disruptive pressure.

SPECIAL FIREFIGHTING PROCEDURES: Use water to keep containers cool. The use of SCBA and protective clothing is recommended for fire fighters.



SECTION V - HEALTH HAZARD DATA

EFFECTS OF OVEREXPOSURE: Eye contact will cause irritation. Skin contact will cause defatting which can lead to dermatitis. Inhalation of vapors can cause headaches, nausea and irritation of nose and throat. Chronic exposure above the exposure limit can cause injury to the central nervous system and can cause other systemic effects.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Skin, respiratory disorders.

TARGET ORGANS: EYES, SKIN, RESPIRATORY SYSTEM, CENTRAL NERVOUS SYSTEM, GI TRACT.

PRIMARY ROUTES OF ENTRY: DERMAL INHALATION

EMERGENCY AND FIRST AID PROCEDURES:
EYE CONTACT - Flush with water for 15 minutes - if irritation persists, get medical attention.
SKIN CONTACT - Wash well with soap and water - use suitable handcream.
INHALATION - Remove individual to fresh air. INGESTION - Call physician immediately.

SECTION VI - REACTIVITY DATA

PRODUCT STABILITY: STABLE

CONDITIONS TO AVOID: Avoid contact with strong acids or oxidizers.

SECTION VII - SPILL OR LEAK PROCEDURES

PROCEDURE WHEN MATERIAL SPILLED OR RELEASED:
Remove by using suitable inert absorbing materials.
Eliminate all sources of vapor ignition. Ventilate area.

WASTE DISPOSAL METHOD: In accordance with applicable local, state and federal regulations.

SECTION VIII - SPECIAL PROTECTION INFORMATION

VENTILATION: Use sufficient local and general ventilation to maintain vapor concentrations below stated exposure limits.

PROTECTIVE ITEMS: Impervious gloves and safety glasses or goggles should be worn during handling procedures where splashing is possible.

RESPIRATORY PROTECTION: If exposure limits are exceeded a supplied air respirator should be worn.

OTHER PROTECTIVE EQUIPMENT: Protective clothing to prevent body contact.

SECTION IX - SPECIAL HANDLING

HANDLING AND STORAGE: Keep containers closed when not in use.
Keep away from excessive heat. Avoid freezing.

OTHER PRECAUTIONS: NONE KNOWN

COMPLETE VOC (VOLATILE ORGANIC COMPOUND) BREAKDOWN

SUN CHEMICAL CORP CODE ID#: RLB11121F/S [% BY WEIGHT OF TOTAL FORMULA]

SOLIDS	56.8
ISOPROPYL ALCOHOL	6.3
N-PROPYL ALCOHOL	2.4
ETHYL ALCOHOL	24.4
N-PROPYL ACETATE	7.3
PROPYLENE GLYCOL MONOMETHYL ETHER	2.0
VM&P NAPHTHA	0.7
TOTAL	99.9

VOC DENSITY IN LB/GAL	6.77
SOLIDS DENSITY IN LB/GAL	14.66
VOLATILES DENSITY IN LB/GAL	6.77

VOC'S AS PERCENTAGE OF INK

WEIGHT %	43.1
VOLUME %	62.2

VOC'S AS PERCENTAGE OF LIQUID

WEIGHT %	100.0
VOLUME %	100.0

INFORMATION FOR WEST COAST VOC RULES

1. LBS VOC'S PER GALLON INK LESS WATER LESS EXEMPT SOLVENT: 4.2
GMS VOC'S PER LITER INK LESS WATER LESS EXEMPT SOLVENT: 505.0
2. LBS VOC'S PER GALLON INK: 4.2
GMS VOC'S PER LITER INK: 505.0
3. DENSITY OF INK IN LBS PER GALLON: 9.76
4. % WATER IN INK BY WEIGHT: 0.0
5. % EXEMPT SOLVENT IN INK BY WEIGHT: 0.0

VOLUME % WATER	0.0
VOLUME % SOLIDS	37.8
LBS VOC'S PER GALLON SOLIDS	11.1

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