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SECTION 1

manufacturer : SANDSTROM PRODUCTS COMPANY
 address : 224 South Main Street
 : Port Byron, IL 61275
 : USA
 telephone# : (309) 523-2121
 emergency# : (800) 424-9300
 : (703) 527-3887

mfg. code id : E728-G35 Revision level : 8-09/21/18
 trade name : 28A SOLID FILM LUBRICANT - MIL-L-23398/MIL-PRF-46147
 Recommended use of chemical: SOLID FILM LUBRICANT
 Restrictions on use: Do not use where there is a potential for contact with food.

SECTION 2 HAZARD IDENTIFICATION



HAZARD CLASSIFICATION:

DANGER!
 EYE IRRITANT: CATEGORY 2A
 SKIN IRRITANT: CATEGORY 2
 SKIN SENSITIZER: CATEGORY 1
 REPRODUCTIVE TOXICITY: CATEGORY 1
 STOT SE: CATEGORY 3 (RESP, D/D)
 FLAMMABLE LIQUID: CATEGORY 2

HAZARD & PRECAUTIONARY STATEMENTS:

FLAMMABILITY

H225: HIGHLY FLAMMABLE LIQUID AND VAPOR. P210: KEEP AWAY FROM HEAT/ SPARKS/ OPEN FLAMES/ HOT SURFACES. -NO SMOKING. P233: KEEP CONTAINER TIGHTLY CLOSED. P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT. P241: USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING EQUIPMENT. P242: USE ONLY NON-SPARKING TOOLS. P243: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE. P280: WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE PROTECTION. P303,P361,P353: IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. P370,P378: IN CASE OF FIRE: USE MEDIA SPECIFIED IN SECTION V TO EXTINGUISH. P403,P235: STORE IN A WELL-VENTILATED PLACE. KEEP COOL. P501: DISPOSE OF CONTENTS/CONTAINER IN ACCORDANCE WITH LOCAL/ REGIONAL/ NATIONAL/ INTERNATIONAL REGULATIONS.

EYE CONTACT

H319: CAUSES SERIOUS EYE IRRITATION. P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECT ION. P264: WASH HANDS AND EXPOSED BODY PARTS THOROUGHLY AFTER HANDLING. P305,P351,P338: IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. P337,P313: IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ ATTENTION.

SKIN CONTACT

H315: CAUSES SKIN IRRITATION. H317: MAY CAUSE AN ALLERGIC SKIN REACTION. P264: WASH HANDS AND EXPOSED BODY PARTS THOROUGHLY AFTER HANDLING. P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECT ION. P261: AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOR/ SPRAY. P272: CONTAMINATED WORK CLOTHING MUST NOT BE ALLOWED OUT OF THE WORKPLACE. P302,P352: IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER. P362: TAKE OFF CONTAMINATED CLOTHING AND WASH BEFORE REUSE. P363: WASH CONTAMINATED CLOTHING

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BEFORE REUSE. P333,P313: IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ ATTENTION. P501: DISPOSE OF CONTENTS/ CONTAINER IN ACCORDANCE WITH LOCAL/ REGIONAL/ NATIONAL/ INTERNATIONAL REGULATIONS.

INHALATION

NOT CLASSIFIED AS A HAZARDOUS SUBSTANCE OR MIXTURE FOR INHALATION.

INGESTION

NOT CLASSIFIED AS A HAZARDOUS SUBSTANCE OR MIXTURE FOR INGESTION.

HAZARDS NOT CLASSIFIED

NO DATA AVAILABLE.

OTHER HEALTH EFFECTS

H360: MAY DAMAGE FERTILITY OR THE UNBORN CHILD. H336: MAY CAUSE DROWSINESS OR DIZZINESS. H335: MAY CAUSE RESPIRATORY IRRITATION. P201: OBTAIN SPECIAL INSTRUCTIONS BEFORE USE. P202: DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD. P280: WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECT ION. P261: AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPORS/ SPRAY. P271: USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. P308+P313: IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION. P304+P340: IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREA THING. P312: CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. P405: STORE LOCKED UP. P403+P233: STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER TIGHTLY CLOSED. P501: DISPOSE OF CONTENTS/ CONTAINER IN ACCORDANCE WITH LOCAL/ REGIONAL/ NATION AL/ INTERNATIONAL REGULATIONS.

OTHER HAZARDS:

USE ONLY IN A WELL-VENTILATED AREA OR IN A HOOD WHERE NO FLAME OR OTHER IGNITION SOURCES ARE PRESENT.DO NOT USE PRODUCT IN FOOD-PROCESSING OR FOOD-HANDLING EQUIPMENT OR ON SURFACES THAT MAY CONTACT FOOD. DO NOT ALLOW PRODUCT TO CONTAMINATE FOODSTUFFS. DO NOT EAT,DRINK OR SMOKE WHEN USING PRODUCT. WASHHANDS THOROUGHLY AFTER HANDLING. DO NOT BREATHE VAPORS. WEAR SUITABLE EYE AND SKIN PROTECTION. KEEP CONTAINER CLOSED WHEN NOT IN USE. PROTECT FROM TEMPERATURE EXTREMES. IN CASE OF SPILL OR LEAK, REMOVE IGNITION SOURCES AND VENTILATE AREA.

SECTION 3

no.	component	CAS#	% by wt.	SARA	vapor pressure (mm Hg @ 20 C)	LEL (@ 25 C)
1	2-PROPOXYPROPANOL	1569-01-3	15 - 20	NO	1.70	1.50
2	1,3-DIOXOLANE	646-06-0	15 - 20	NO	70.00	N/A
3	BISPHENOL A EPOXY RESIN	25036-25-3	5 - 10	NO	N/A	N/A
4	PROPYLENE GLYCOL METHYL ETHER ACETATE	108-65-6	15 - 20	NO	3.70	1.50 @ 200 C
5	ACETONE	67-64-1	10 - 15	NO	182.00	2.60

(N/A = not applicable)

SECTION 4 FIRST AID MEASURES

EYE CONTACT

IMMEDIATELY FLUSH EYES WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE HOLDING EYELIDS OPEN. SEEK PROMPT MEDICAL ATTENTION.

SKIN CONTACT

REMOVE CONTAMINATED CLOTHING AND SHOES. WIPE EXCESS FROM SKIN AND FLUSH WITH WATER USING SOAP IF AVAILABLE. SEEK MEDICAL ATTENTION IF IRRITATION OCCURS. DO NOT REUSE CLOTHING UNTIL THOROUGHLY DECONTAMINATED.

INHALATION

REMOVE VICTIM TO FRESH AIR AND TREAT SYMPTOMATICALLY. PROVIDE OXYGEN IF BREATHING IS DIFFICULT. GIVE ARTIFICIAL RESPIRATION IF THE VICTIM IS NOT BREATHING. SEEK PROMPT MEDICAL ATTENTION.

INGESTION

DILUTE WITH LIQUID UNLESS THE VICTIM IS UNCONSCIOUS OR VERY DROWSY. IF VOMITING SPONTANEOUSLY OCCURS, KEEP THE VICTIM'S HEAD BELOW THE HIPS TO PREVENT ASPIRATION INTO THE LUNGS. CONSULT A PHYSICIAN, HOSPITAL OR POISON CONTROL CENTER AND/OR TRANSPORT TO AN EMERGENCY FACILITY IMMEDIATELY.

SECTION 5 FIRE FIGHTING MEASURES

flammability classification - OSHA : FLAMMABLE LIQUID
 - DOT : FLAMMABLE LIQUID

EXTINGUISHING MEDIA

USE WATER FOG, FOAM, DRY CHEMICAL OR CARBON DIOXIDE.

SPECIAL FIRE FIGHTING PROCEDURES AND PRECAUTIONS

WARNING. FLAMMABLE CLEAR FIRE AREA OF UNPROTECTED PERSONNEL. DO NOT ENTER CONFINED FIRE SPACE WITHOUT HELMET, FACE SHIELD, BUNKER COAT, GLOVES, RUBBER BOOTS, AND A POSITIVE PRESSURE NIOSH-APPROVED SELF-CONTAINED BREATHING APPARATUS.

UNUSUAL FIRE AND EXPLOSION HAZARDS

CONTAINERS EXPOSED TO INTENSE HEAT FROM FIRES SHOULD BE COOLED WITH WATER TO PREVENT VAPOR PRESSURE BUILDUP WHICH COULD RESULT IN CONTAINER RUPTURE. CONTAINER AREAS EXPOSED TO DIRECT FLAME CONTACT SHOULD BE COOLED WITH LARGE QUANTITIES OF WATER AS NEEDED TO PREVENT WEAKENING OF CONTAINER STRUCTURE.

SECTION 6

ACCIDENTAL RELEASE MEASURES

SPILL OR LEAK PROCEDURES

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.

SECTION 7

HANDLING AND STORAGE

FLAMMABILITY

H225: HIGHLY FLAMMABLE LIQUID AND VAPOR. P210: KEEP AWAY FROM HEAT/ SPARKS/ OPEN FLAMES/ HOT SURFACES. -NO SMOKING. P233: KEEP CONTAINER TIGHTLY CLOSED. P240: GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT. P241: USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING EQUIPMENT. P242: USE ONLY NON-SPARKING TOOLS. P243: TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE. P280: WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE PROTECTION. P303,P361,P353: IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER. P370,P378: IN CASE OF FIRE: USE MEDIA SPECIFIED IN SECTION V TO EXTINGUISH. P403,P235: STORE IN A WELL-VENTILATED PLACE. KEEP COOL. P501: DISPOSE OF CONTENTS/CONTAINER IN ACCORDANCE WITH LOCAL/ REGIONAL/ NATIONAL/ INTERNATIONAL REGULATIONS.

SECTION 8

EMPLOYEE PROTECTION

RESPIRATORY PROTECTION

AVOID PROLONGED OR REPEATED BREATHING OF VAPORS/MIST. IF EXPOSURE EXCEEDS TLV USE A NIOSH-APPROVED POSITIVE PRESSURE SUPPLIED AIR RESPIRATOR TO PREVENT OVER EXPOSURE.

PROTECTIVE CLOTHING

AVOID CONTACT WITH EYES. WEAR GOGGLES IF THERE IS A LIKELIHOOD OF CONTACT WITH EYES. DO NOT GET ON SKIN OR ON CLOTHING.

ADDITIONAL PROTECTIVE MEASURES

USE VENTILATION AS REQUIRED TO CONTROL VAPOR/DUST CONCENTRATIONS. EYE WASH FOUNTAINS AND SAFETY SHOWERS SHOULD BE AVAILABLE FOR USE IN AN EMERGENCY.

SECTION 9

PHYSICAL PROPERTIES

% volatile by volume	: 84.40 +/- 2%	weight per gallon	: 9.90 +/- .2
% volatile by weight	: 65.59 +/- 2%	VOC as supplied is	5.0473 pounds per gallon.

PHYSICAL STATE	: LIQUID	FLAMMABILITY (SOLID, GAS):	NOT AVAILABLE
COLOR	: (G) Gray	FLAMMABILITY/EXPLOSIVE LIMITS:	NOT AVAILABLE
ODOR	: STRONG SOLVENT	VAPOR PRESSURE	: NOT AVAILABLE
ODOR THRESHOLD	: NOT AVAILABLE	VAPOR DENSITY	: NOT AVAILABLE
pH	: N/A	RELATIVE DENSITY	: 1.187
MELTING/FREEZING POINT:	NOT AVAILABLE	SOLUBILITY	: NOT AVAILABLE
INITIAL BOILING POINT	: 173 (degrees F)	PARTITION COEFFICIENT	: NOT RELEVANT
BOILING RANGE	: NOT AVAILABLE	AUTO-IGNITION TEMPERATURE:	NOT AVAILABLE
EVAPORATION RANGE	: NOT AVAILABLE	DECOMPOSITION TEMPERATURE	: NOT AVAILABLE
		VISCOSITY (AT 77F)	: 15-25 SEC,#2 ZAHN

flash point : 23 +/-2 degrees F. SETAFLASH

SECTION 10

STABILITY AND REACTIVITY

STABILITY : STABLE

HAZARDOUS POLYMERIZATION : MAY OCCUR

CONDITIONS AND MATERIALS TO AVOID

BASED ON THE PRESENCE OF COMPONENTS 1, 2, 4 AND 5 AVOID OXIDIZING MATERIALS. BASED ON THE PRESENCE OF COMPONENT 2 AVOID STRONG ACIDS.

HAZARDOUS DECOMPOSITION PRODUCTS

CARBON DIOXIDE, CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED DURING COMBUSTION.

SECTION 11

TOXICOLOGICAL INFORMATION

no.	(OSHA) PEL/TWA	PEL/CEILING	PEL/STEL	skin
1	N/E	N/E	N/E	N/E
2	N/E	N/E	N/E	N/E
3	N/E	N/E	N/E	N/E
4	N/E	N/E	N/E	N/E
5	750ppm	N/E	N/E	N/E

no.	(ACGIH) TLV/TWA	TLV/CEILING	TLV/STEL	skin
1	N/E	N/E	N/E	N/E
2	N/E	N/E	N/E	N/E
3	N/E	N/E	N/E	N/E
4	N/E	N/E	N/E	N/E
5	750ppm	N/E	1000ppm	N/E

>> The dried film of this product may become a dust nuisance when removed by sanding or grinding. OSHA recommends a PEL/TWA of 15 mg/m3 for total dust and 5 mg/m3 for the respirable fraction. ACGIH recommends a TLV/TWA of 10 mg/m3 for total dust.

>> (SKIN) absorption may contribute to the overall exposure to this material. Take appropriate measures to prevent skin contact.
(N/E = not established)

>> None of the components of this product are recognized as carcinogenic.

SECTION 12

ECOLOGICAL INFORMATION

CAS#	Component	Harmful to Aquatic Life	Not Harmful to Aquatic Life	May be Harmful to Aquatic
001569-01-3	2-PROPOXYPROPANOL	: N	: N	: Y
000646-06-0	1,3-DIOXOLANE	: N	: Y	: N
025036-25-3	BISPHENOL A EPOXY RESIN	: N	: Y	: N
000108-65-6	PROPYLENE GLYCOL METHYL ETHER ACETATE	: Y	: N	: Y
000067-64-1	ACETONE	: Y	: N	: Y

SECTION 13 DISPOSAL CONSIDERATIONS

WASTE DISPOSAL

WASTE CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE SOLE RESPONSIBILITY OF THE END USER. ALL DISPOSAL PRACTICES USED FOR THIS PRODUCT AND ITS CONTAINER(S) MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL LAWS AND REGULATIONS. THE INFORMATION PRESENTED IN THIS SDS PERTAINS ONLY TO THE PRODUCT AS SHIPPED.

SECTION 14 TRANSPORTATION INFORMATION

Land Transport
USDOT

Proper shipping name: PAINT
 NOS Components :
 Hazard class: 3
 ID-number: UN1263
 Packing group: II
 Aquatic Toxicity: YES

Sea Transport
IMDG

Proper shipping name: PAINT
 NOS Components : ACETONE
 Hazard class: 3
 ID-number: UN1263
 Packing group: II
 Aquatic Toxicity: YES

Air Transport
IATA/ICAO

Proper shipping name: PAINT
 NOS Components : ACETONE
 Hazard class: 3
 ID-number: UN1263
 Packing group: II
 Aquatic Toxicity: YES

SECTION 15 REGULATORY INFORMATION

CAS#	Component				
001569-01-3	2-PROPOXYPROPANOL				
US TSCA Inventory	: YES	Canada Domestic Substance List	: YES	EC	: YES
Philippines	: YES	Japan	: UNKNOWN	Korea	: UNKNOWN
China	: YES	Australia	: YES		
000646-06-0	1,3-DIOXOLANE				
US TSCA Inventory	: YES	Canada Domestic Substance List	: YES	EC	: YES
Philippines	: YES	Japan	: YES	Korea	: YES
China	: YES	Australia	: NO		

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SECTION 15

REGULATORY INFORMATION CONTINUED

025036-25-3 BISPHENOL A EPOXY RESIN

US TSCA Inventory	: YES	Canada Domestic Substance List	: YES	EC	: YES
Philippines	: YES	Japan	: YES	Korea	: YES
China	: YES	Australia	: YES		

000108-65-6 PROPYLENE GLYCOL METHYL ETHER ACETATE

US TSCA Inventory	: YES	Canada Domestic Substance List	: YES	EC	: YES
Philippines	: YES	Japan	: YES	Korea	: YES
China	: UNKNOWN	Australia	: YES		

000067-64-1 ACETONE

US TSCA Inventory	: YES	Canada Domestic Substance List	: YES	EC	: YES
Philippines	: YES	Japan	: YES	Korea	: YES
China	: YES	Australia	: YES		



WARNING This product can expose you to chemicals including FORMALDEHYDE ,which is known to the State of California to cause cancer, and 4,4'-(1-METHYLETHYLIDENE)BISPHENOL ,which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

no.	component	CAS#	SARA
1	2-PROPOXYPROPANOL	1569-01-3	NO
2	1,3-DIOXOLANE	646-06-0	NO
3	BISPHENOL A EPOXY RESIN	25036-25-3	NO
4	PROPYLENE GLYCOL METHYL ETHER ACETATE	108-65-6	NO
5	ACETONE	67-64-1	NO

SECTION 16

OTHER INFORMATION

- H M I S -

HEALTH	: 2
FLAMMABILITY	: 3
REACTIVITY	: 0
PERSONAL PROTECT.:	X

(X = ask your supervisor for specialized handling directions)

CONTAINERS CAN CONTAIN HAZARDOUS PRODUCT RESIDUES EVEN WHEN EMPTY. WASH WITH SOAP AND WATER BEFORE EATING, DRINKING, SMOKING, OR USING TOILET FACILITIES.

THE INFORMATION CONTAINED HEREIN IS BASED ON THE DATA AVAILABLE TO US AND IS BELIEVED TO BE CORRECT. HOWEVER, WE MAKE NO WARRANTY, EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF. WE ASSUME NO RESPONSIBILITY FOR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.