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S A F E T Y D A T A S H E E T

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	33869
NAME:	Borneol
SYNONYMS:	Camphol
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

FLAMMABLE SOLIDS (CATEGORY 2), H228
ACUTE TOXICITY, ORAL (CATEGORY 4), H302
SKIN CORROSION/IRRITATION (CATEGORY 2), H315
AQUATIC HAZARD (ACUTE) (CATEGORY 3), H402

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE
SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD

WARNING

HAZARD STATEMENT(S)

H228 FLAMMABLE SOLID.
H302 HARMFUL IF SWALLOWED.
H315 CAUSES SKIN IRRITATION
H402 HARMFUL TO AQUATIC LIFE

PRECAUTIONARY STATEMENT(S)

P210 KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING.
P240 GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.
P241 USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING/ EQUIPMENT.
P264 WASH SKIN THOROUGHLY AFTER HANDLING.
P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.
P273 AVOID RELEASE TO THE ENVIRONMENT.
P280 WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE PROTECTION.
P301 + P312 + P330 IF SWALLOWED: CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL. RINSE MOUTH.
P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM FOR EXTINCTION.
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT
OTHERWISE
CLASSIFIED
(HNOC) OR NOT
COVERED BY GHS**

CAUSES MILD SKIN IRRITATION.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: $C_{10}H_{18}O$
MW: 154.25
CAS-NO. 507-70-0
PURITY: 95 - 100% (GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
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BORNEOL		
	FLAM. SOL. 2; ACUTE TOX. 4; H228, H302	<= 100 %

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE	IMMEDIATELY REMOVE ANY CLOTHING CONTAMINATED BY THE PRODUCT. MOVE OUT OF DANGEROUS AREA. CONSULT A PHYSICIAN AND SHOW THIS SAFETY DATA SHEET.
IF INHALED	MOVE PERSON TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN. OBTAIN MEDICAL AID.
IN CASE OF SKIN CONTACT	IMMEDIATELY FLUSH SKIN WITH RUNNING WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. WASH CLOTHING BEFORE REUSE. OBTAIN MEDICAL AID IMMEDIATELY.
IN CASE OF EYE CONTACT	IMMEDIATELY FLUSH OPEN EYES WITH RUNNING WATER FOR AT LEAST 15 MINUTES. OBTAIN MEDICAL AID IMMEDIATELY.
IF SWALLOWED	DO NOT INDUCE VOMITING WITHOUT MEDICAL ADVICE. RINSE MOUTH WITH WATER. NEVER ADMINISTER ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. OBTAIN MEDICAL AID IMMEDIATELY.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	USE WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE, OR CHEMICAL FOAM.
SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES
ADVICE FOR FIREFIGHTERS	AS IN ANY FIRE, WEAR A NIOSH-APPROVED OR EQUIVALENT, PRESSURE-DEMAND, SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. DURING A FIRE, IRRITATING AND HIGHLY TOXIC GASES MAY BE GENERATED BY THERMAL DECOMPOSITION OR COMBUSTION.
FURTHER INFORMATION	USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	USE PERSONAL PROTECTIVE EQUIPMENT. AVOID DUST FORMATION. AVOID BREATHING VAPOURS, MIST OR GAS. ENSURE ADEQUATE VENTILATION. REMOVE ALL SOURCES OF IGNITION. EVACUATE PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST. FOR PERSONAL PROTECTION SEE SECTION 8.
ENVIRONMENTAL PRECAUTIONS	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.
METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP	PREVENT FURTHER LEAK OR SPILL IF SAFE TO DO SO. VACUUM, SWEEP UP, OR ABSORB WITH INERT MATERIAL AND PLACE INTO A SUITABLE DISPOSAL CONTAINER. CONSULT LOCAL REGULATIONS FOR DISPOSAL. SEE SECTION 13 FOR FURTHER DISPOSAL INFORMATION.
REFERENCE TO OTHER SECTIONS	FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	AVOID CONTACT WITH SKIN, EYES, AND PERSONAL CLOTHING. WASH HANDS THOROUGHLY AFTER HANDLING. AVOID BREATHING FUMES. USE ONLY WITH ADEQUATE VENTILATION. WEAR SUITABLE
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	PROTECTIVE CLOTHING, GLOVES, AND EYE/FACE PROTECTION. KEEP AWAY FROM SOURCES OF IGNITION. MINIMIZE DUST GENERATION AND ACCUMULATION. KEEP CONTAINER TIGHTLY CLOSED. OPEN AND HANDLE CONTAINER WITH CARE. DO NOT EAT, DRINK, OR SMOKE WHILE HANDLING.
CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. STORE AT RT
SPECIFIC END USE(S)	STORE IN A TIGHTLY-CLOSED CONTAINER WHEN NOT IN USE. STORE IN A COOL, DRY, WELL-VENTILATED AREA AWAY FROM INCOMPATIBLE SUBSTANCES. KEEP AWAY FROM SOURCES OF IGNITION. , STORE LONG-TERM AT ROOM TEMPERATURE.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS	CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES. HAZARDOUS COMPONENTS WITHOUT WORKPLACE CONTROL PARAMETERS
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EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS	AVOID CONTACT WITH SKIN, EYES, AND CLOTHING. WASH HANDS BEFORE BREAKS AND IMMEDIATELY AFTER HANDLING THE PRODUCT. FACILITIES STORING OR UTILIZING THIS MATERIAL SHOULD BE EQUIPPED WITH AN EYEWASH FOUNTAIN. USE ADEQUATE GENERAL AND LOCAL EXHAUST VENTILATION TO KEEP AIRBORNE CONCENTRATIONS LOW.
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PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION	SAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TO EN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).
SKIN PROTECTION	HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.

BODY PROTECTION	COMPLETE SUIT PROTECTING AGAINST CHEMICALS, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.
RESPIRATORY PROTECTION	RESPIRATORS ARE NOT A SUBSTITUTE FOR ACCEPTED ENGINEERING CONTROL MEASURES SUCH AS ENCLOSURE OR CONFINEMENT OF THE OPERATION, GENERAL AND LOCAL VENTILATION, AND SUBSTITUTION OF LESS TOXIC MATERIALS. WHEN RESPIRATORY PERSONAL PROTECTIVE EQUIPMENT IS APPROPRIATE BASED ON AN ASSESSMENT OF RESPIRATORY HAZARDS IN THE WORKPLACE, USE A NIOSH- OR CEN-CERTIFIED RESPIRATOR.
CONTROL OF ENVIRONMENTAL EXPOSURE	PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	WHITE TO OFF-WHITE CRYSTALLINE POWDER
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING	206 - 212 °C
POINT/FREEZING POINT	
INITIAL BOILING POINT	NO DATA AVAILABLE
AND BOILING RANGE	
FLASH POINT	> 93 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	THE SUBSTANCE OR MIXTURE IS A FLAMMABLE SOLID WITH THE CATEGORY 2.
UPPER/LOWER	NO DATA AVAILABLE
FLAMMABILITY OR EXPLOSIVE LIMITS	
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	NO DATA AVAILABLE
WATER SOLUBILITY	INSOLUBLE
PARTITION	NO DATA AVAILABLE
COEFFICIENT: N-OCTANOL/WATER	
AUTO-IGNITION	NO DATA AVAILABLE
TEMPERATURE	
DECOMPOSITION	NO DATA AVAILABLE
TEMPERATURE	
VISCOSITY	NO DATA AVAILABLE

EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE
OTHER SAFETY INFORMATION	NO DATA AVAILABLE

SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE
CONDITIONS TO AVOID	DUST GENERATION.
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS	HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES OTHER DECOMPOSITION PRODUCTS - NO DATA AVAILABLE IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY	LD50 ORAL - MOUSE - 1,059 MG/KG INHALATION: NO DATA AVAILABLE DERMAL: NO DATA AVAILABLE NO DATA AVAILABLE
SKIN CORROSION/IRRITATION	SKIN CONTACT MAY RESULT IN INFLAMMATION CHARACTERIZED BY ITCHING, SCALING, REDDENING, BLISTERING, PAIN OR DRYNESS.
SERIOUS EYE DAMAGE/EYE IRRITATION	EYE CONTACT MAY RESULT IN REDNESS, PAIN OR SEVERE EYE DAMAGE.

RESPIRATORY OR SKIN SENSITISATION	INHALATION MAY CAUSE IRRITATION OF THE LUNGS AND RESPIRATORY SYSTEM. OVEREXPOSURE MAY RESULT IN SERIOUS ILLNESS OR DEATH.
GERM CELL MUTAGENICITY	NO DATA AVAILABLE
CARCINOGENICITY	
IARC:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.
NTP:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.
OSHA:	NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA'S LIST OF REGULATED CARCINOGENS.
REPRODUCTIVE TOXICITY	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE	NO DATA AVAILABLE
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE	NO DATA AVAILABLE
ASPIRATION HAZARD	NO DATA AVAILABLE
ADDITIONAL INFORMATION	RTECS: ED7000000 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY	NO DATA AVAILABLE
PERSISTENCE AND DEGRADABILITY	NO DATA AVAILABLE
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE

MOBILITY IN SOIL	NO DATA AVAILABLE
RESULTS OF PBT AND VPVB ASSESSMENT	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED
OTHER ADVERSE EFFECTS	NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE.
CONTAMINATED PACKAGING	DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME:	BORNEOL
UN NUMBER:	1312
CLASS:	4.1
PACKING GROUP:	III
REPORTABLE QUANTITY (RQ):	
POISON INHALATION HAZARD:	NO

IMDG

PROPER SHIPPING NAME:	BORNEOL
UN NUMBER:	1312
CLASS:	4.1
PACKING GROUP:	III
EMS-NO:	F-A, S-I

IATA

PROPER SHIPPING NAME:	BORNEOL
UN NUMBER:	1312
CLASS:	4.1
PACKING GROUP:	III

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS SARA 302: NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO THE REPORTING REQUIREMENTS OF SARA TITLE III, SECTION 302.

SARA 313 COMPONENTS SARA 313: THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

SARA 311/312 HAZARDS ACUTE HEALTH HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS
NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
BORNEOL	507-70-0	

NEW JERSEY RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
BORNEOL	507-70-0	

CALIFORNIA PROP. 65 COMPONENTS THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

H228	FLAMMABLE SOLID.
H302	HARMFUL IF SWALLOWED.
H315	CAUSES SKIN IRRITATION
H402	HARMFUL TO AQUATIC LIFE

MSDS LEGEND

MW:	MOLECULAR WEIGHT
MF:	MOLECULAR FORMULA
VOC:	VOLATILE ORGANIC COMPOUNDS
ACGIH:	AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS
CAS:	CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA:	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL:	PERMISSIBLE EXPOSURE LIMIT (OSHA)

TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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