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Material Safety Data Sheet

EU Regulation: 1907/2006





SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 PRODUCT IDENTIFICATION					
PRODUCT NAME	LEMON, ESSENTIAL OIL ORGANIC				
BIOLOGICAL DEFINITION	CITRUS LIMON PEEL OIL IS THE VOLATILE OIL OBTAINED BY COLD COMPRESSION OF THE FRESH PEEL OF THE LEMON, CITRUS LIMON (L.), RUTACEAE.				
INCI NAME	CITRUS LIMON PEEL OIL				
SYNONYMS & TRADE NAMES	-				
INTERNAL PRODUCT CODE	K0255				
CAS-No	8008-56-8 / 84929-31-7	EC No.	284-515-8	EINECS No.	284-515-8
1.2 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET					
COMPANY ADDRESS	Bomar Ltd, Sea Road, Kilcoole, Co.Wicklow				
EMAIL	info@bomar.ie				
1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET					
EMERGENCY CONTACTS	MRS. ELEANOR WADE (07968 200167)				

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SECTION 2: HAZARDS IDENTIFICATION	
2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE	THE FULL TEXT FOR ALL HAZARD STATEMENTS IS DISPLAYED IN SECTION 16.
CLASSIFICATION (67/548/EEC)	NO ADDITIONAL DATA AVAILABLE.
CLASSIFICATION (EU1272/2008)	ASPIRATION TOXICITY CATEGORY 1 - (H304) SKIN CORROSION/IRRITATION CATEGORY 2 - (H315) SERIOUS EYE DAMAGE/EYE IRRITATION CATEGORY 2 - (H319) SKIN SENSITIZATION CATEGORY 1B - (H317) REPRODUCTIVE TOXICITY CATEGORY 2 - (H361) ACUTE AQUATIC TOXICITY CATEGORY 1 - (H400) CHRONIC AQUATIC TOXICITY CATEGORY 1 - (H410) FLAMMABLE LIQUIDS CATEGORY 3 - (H226)
2.2 LABEL ELEMENTS	LABEL IN ACCORDANCE WITH REGULATION (EC) No 1272/2008.
GHS LABEL	    GHS02 GHS07 GHS08 GHS09
SIGNAL WORD	DANGER.
CONTAINS	D-LIMONENE, BETA-PINENE, GAMMA-TERPINENE, PINENE ALPHA, LAEVO
HAZARDS STATEMENT	H304 - MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS H315 - CAUSES SKIN IRRITATION H317 - MAY CAUSE AN ALLERGIC SKIN REACTION H319 - CAUSES SERIOUS EYE IRRITATION H361 - SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD H410 - VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS H226 - FLAMMABLE LIQUID AND VAPOR CONTAINS NERYL ACETATE, DEXTRO ALPHA-PINENE, ALPHA-PINENE, GERANYL ACETATE EUH208 - CONTAINS (.?). MAY PRODUCE AN ALLERGIC REACTION
PRECAUTIONARY STATEMENTS	P210 - KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING 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 PROTECTION P308 + P313 - IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ATTENTION P301 + P310 - IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER OR DOCTOR P331 - DO NOT INDUCE VOMITING P302 + P352 - IF ON SKIN: WASH WITH PLENTY OF SOAP AND WATER P333 + P313 - IF SKIN IRRITATION OR RASH OCCURS: GET MEDICAL ADVICE/ATTENTION 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 P263 - AVOID CONTACT DURING PREGNANCY/WHILE NURSING P273 - AVOID RELEASE TO THE ENVIRONMENT P501 - DISPOSE OF CONTENTS/CONTAINER IN ACCORDANCE WITH LOCAL, REGIONAL, NATIONAL, AND INTERNATIONAL REGULATIONS AS APPLICABLE
SUPPLEMENTARY PRECAUTIONARY STATEMENTS	NO DATA
SECTION 16 (OTHER INFORMATION): RISK & SAFETY PHRASES IN FULL.	
2.3 OTHER HAZARDS	
ADVERSE PHYSIO-CHEMICAL PROPERTIES	NO DATA
ADVERSE EFFECTS ON HUMAN HEALTH	NO DATA
PBT OR vPvB ACCORDING TO ANNEX XIII	NO DATA

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SECTION 3: COMPOSITION OF INGREDIENTS

3.2 MIXTURES	<p>≤ 60 – 70 % D-LIMONENE CAS-NO: 5989-27-5; EC NO.: 227-813-5</p> <p>CLASSIFICATION (EC 1272/2008) FLAM. LIQ. 3 - H226, SKIN IRRIT. 2 - H315, SKIN SENS. 1 - H317, ASP. TOX. 1 - H304, AQUATIC ACUTE 1 - H400, AQUATIC CHRONIC 1 - H410, M FACTOR (ACUTE) = 1. M FACTOR (CHRONIC) = 1</p>
	<p>10 – 20 % BETA-PINENE CAS NO: 127-91-3 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) ACUTE AQUATIC 1 (H400) (EFFA) CHRONIC AQUATIC 1 (H410) (EFFA) SKIN SENS. 1 (H317) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ASP. TOX. 1 (H304) (EFFA) FLAM. LIQ. 3 (H226)(EFFA)</p>
	<p>1 – 10 % GAMMA-TERPINENE CAS NO: 99-85-4 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) REP 2 (H361), FLAM. LIQ. 3, ASPIR HAZ. 1 (H304), ACUTE TOX 5 (H303), SKIN IRRIT. 3 (H316)</p>
	<p>1 - 10% CITRAL CAS NO: 5392-40-5 EC NO: 226-394-6</p> <p>CLASSIFICATION (EC 1272/2008) SKIN IRRIT. 2 - H315, SKIN SENS. 1 - H317</p>
	<p>1 – 10 % PINENE ALPHA, LAEVO CAS NO: 7785-26-4 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) ASP 1 (H304), ACUTE TOX 4 (H302), SKIN IRR 2 (H315), SKIN SENS 1 (H317), ACUTE AQUATIC 1 (H400), CHRONIC AQUATIC 1 (H410)</p>
	<p>1 – 10 % MYRCENE CAS NO: 123-35-3 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) EYE IRRIT. 2 (H319)(EFFA) SKIN IRRIT. 2(H315) (EFFA) ASP.TOX. 1 (H304) (EFFA)FLAM. LIQ. 3 (H226) (EFFA) ACUTE AQUATIC 1 (H400) (EFFA) CHRONIC AQUATIC 2 (H411) (EFFA)</p>
	<p>0.1 – 1.0 % NERYL ACETATE CAS NO: 141-12-8 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) AQUATIC ACUTE 2 (H401), SKIN SENS. 1B (H317)</p>
	<p>0.1 – 1.0 % DEXTRO ALPHA-PINENE CAS NO: 7785-70-8 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) SKIN SENS. 1B (H317) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ASP. TOX. 1 (H304) (EFFA) ACUTE TOX. 5 (H303)(EFFA) FLAM. LIQ. 3 (H226)(EFFA) ACUTE AQUATIC 1 (H400) (EFFA) CHRONIC AQUATIC 1 (H410) (EFFA)</p>
	<p>0.1 – 1.0 % ALPHA-TERPINEOL CAS NO: 98-55-5 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) AQUATIC ACUTE 2. (H401) (EFFA) EYE IRRIT. 2 (H319) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ACUTE TOX. 5 (H303)(EFFA) FLAM. LIQ. 4 (H227)(EFFA)</p>
	<p>0.1 – 1.0 ALPHA-PINENE CAS NO: 80-56-8 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) ACUTE AQUATIC 1 (H400) (EFFA) CHRONIC AQUATIC 1 (H410) (EFFA) ACUTE TOX. 4 (H302) (EFFA) SKIN SENS. 1B (H317) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ASP. TOX. 1 (H304) (EFFA) FLAM. LIQ. 3 (H226)(EFFA)</p>
	<p>0.1 – 1.0 % GERANYL ACETATE CAS NO: 105-87-3 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) SKIN SENS. 1B (H317) SKIN IRRIT. 2 (H315) AQUATIC CHRONIC 3 (H412) AQUATIC ACUTE 2 (H401)</p>
	<p>0.1-1.0 % SABINENE CAS NO: 3387-41-5 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) ASPIRATION CAT 1 (H304), FLAM CAT 3 (H226), SKIN IRRIT CAT 2 (H315), SKIN SENS CAT 1B (H317), ACUTE AQUATIC CAT 1 (H400), CHRONIC AQUATIC CAT 1 (H410)</p>
	<p>0.1 – 1.0% LINALOOL CAS NO: 78-70-6 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) AQUATIC ACUTE 3 (H402) (EFFA) EYE IRRIT. 2 (H319) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ACUTE TOX. 5 (H303)(EFFA) FLAM. LIQ. 4 (H227)(EFFA) SKIN SENS. 1B (H317)(EFFA)</p>
	<p>0.1 - 1.0 % TERPINOLENE CAS NO: 586-62-9 EC NO: -</p> <p>CLASSIFICATION (EC 1272/2008) AQUATIC ACUTE 1 (H400) (EFFA) AQUATIC CHRONIC 1 (H410) (EFFA) ASP.TOX. 1 (H304) (EFFA) ACUTE TOX. 5 (H303)(EFFA) FLAM. LIQ. 4 (H227)(EFFA) SKIN IRRIT. 3 (H316) (EFFA) SKIN SENS. 1 (H317) (EFFA)</p>

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	0.1 -1.0 % EUCALYPTOL CAS No: 470-82-6 EC No: - CLASSIFICATION (EC 1272/2008) SKIN IRRIT. 3 (H316) (EFFA) ACUTE TOX. 5 (H303)(EFFA) FLAM. LIQ. 3 (H226)(EFFA) SKIN SENS. 1B (H317) (EFFA)
	0.1 – 1.0 % CARYOPHYLLENE CAS No: 87-44-5 EC No: - CLASSIFICATION (EC 1272/2008) SKIN SENS. 1B (H317) (EFFA) ASP. TOX. 1 (H304) (EFFA) CHRONIC AQUATIC 4 (H413) (EFFA)
	0.01 – 0.1 % DELTA-3-CARENE CAS No: 13466-78-9 EC No: - CLASSIFICATION (EC 1272/2008) SKIN SENS. 1 (H317) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ASP. TOX. 1 (H304) (EFFA) ACUTE TOX. 5 (H303)(EFFA) FLAM. LIQ. 3 (H226)(EFFA) ACUTE AQUATIC 1 (H400)(EFFA) CHRONIC AQUATIC 1 (H410) (EFFA)
	0.01 – 0.1 % PARA-CYMENE CAS No: 99-87-6 EC No: - CLASSIFICATION (EC 1272/2008) REP TOX. 2 (H361), AQUATIC ACUTE 2 (H401), SKIN IRRIT. 3 (H316), AQUATIC CHRONIC 2 (H411), ASP. TOX. 1 (H304), ACUTE TOX. 5 (H303),FLAM. LIQ. 3 (H226)
	0.01 – 0.1 % TRANS BETA-OCIMENE CAS No: 3779-61-1 EC No: - CLASSIFICATION (EC 1272/2008) ACUTE TOX. 5 (H303) (EFFA) ASP. TOX. 1 (H304) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ACUTE AQUATIC 1 (H400) (EFFA) CHRONIC AQUATIC 2 (H411) (EFFA) FLAM. LIQ. 3 (H226) (EFFA)
	0.01 – 0.1 % ALPHA-PHELLANDRENE CAS No: 99-83-2 EC No: - CLASSIFICATION (EC 1272/2008) SKIN IRRIT. 3 (H316) (EFFA) ASP. TOX. 1 (H304) (EFFA) FLAM. LIQ. 3 (H226)(EFFA)
	0.1 – 1.0 % BETA-BISABOLENE CAS No: 495-61-4 EC No: - CLASSIFICATION (EC 1272/2008) SKIN SENS. 1 (H317) (EFFA) SKIN IRRIT. 2 (H315) (EFFA) ASP. TOX. 1 (H304) (EFFA)
	< 0.01% GERANIOL CAS No: 106-24-1 EC No: - CLASSIFICATION (EC 1272/2008) SKIN SENS. 1B (H317) SKIN IRRIT. 2 (H315) EYE DAM. 1 (H318) AQUATIC ACUTE 3 (H402) ACUTE TOX. 5 (ORAL)(H303)
	< 0.01% CITRONELLAL CAS No: 106-23-0 EC No: - CLASSIFICATION (EC 1272/2008) FLAM. LIQ. 4 (H227)(EFFA) ACUTE TOX. 5 (H303)(EFFA) ACUTE TOX. 5 (H313)(EFFA) SKIN IRRIT. 2 (H315)(EFFA) EYE IRRIT. 2A (H319)(EFFA) SKIN SENS. 1B (H317)(EFFA) AQUATIC ACUTE 2 (H401)(EFFA)

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES	
GENERAL INFORMATION	ALWAYS REMOVE CONTAMINATED CLOTHING IMMEDIATELY.
INHALATION	IMMEDIATE MEDICAL ATTENTION IS NOT REQUIRED. IF SYMPTOMS PERSIST, CALL A PHYSICIAN. MOVE TO FRESH AIR IN CASE OF ACCIDENTAL INHALATION OF VAPORS OR DECOMPOSITION PRODUCTS.
INGESTION	CLEAN MOUTH WITH WATER AND DRINK AFTERWARDS PLENTY OF WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. CALL A PHYSICIAN. DO NOT INDUCE VOMITING.
SKIN CONTACT	REMOVE CONTAMINATED CLOTHES. WASH THOROUGHLY WITH SOAP AND WATER. CONTACT PHYSICIAN IF IRRITATION PERSISTS.
EYE CONTACT	FLUSH IMMEDIATELY WITH WATER FOR AT LEAST 15 MINUTES. CONTACT PHYSICIAN IF SYMPTOMS PERSIST.
4.2 MOST IMPORTANT SYMPTOMS & EFFECTS (ACUTE & DELAYED)	NO DATA
4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION OR SPECIAL TREATMENT REQUIRED	TREAT SYMPTOMATICALLY.

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SECTION 5: FIRE FIGHTING MEASURES	
5.1 EXTINGUISHING MATERIAL	FOAM, CO2, DRY CHEMICAL POWDER.
5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	BURNING PRODUCES IRRITATING, TOXIC AND OBNOXIOUS FUMES
5.3 ADVICE FOR FIRE-FIGHTERS	SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS: WEAR POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA) AND APPROPRIATE PROTECTIVE CLOTHING.
SECTION 6: ACCIDENTAL RELEASE MEASURES	
6.1 PERSONAL PRECAUTIONS	ENSURE ADEQUATE VENTILATION OF THE WORKING AREA, EVACUATE PERSONNEL TO SAFE AREA, WEAR SUITABLE PROTECTIVE EQUIPMENT. NO SMOKING, SPARKS, FLAMES OR OTHER SOURCES OF IGNITION NEAR SPILLAGE. AVOID CONTACT WITH SKIN, EYES AND CLOTHING.
6.2 ENVIRONMENTAL PRECAUTIONS	DO NOT DISCHARGE INTO DRAINS, WATER COURSES OR ONTO THE GROUND. DISPOSE OF IN LINE WITH LOCAL AUTHORITY GUIDELINES.
6.3 METHODS & MATERIAL FOR CONTAINMENT AND CLEANING UP	REMOVE IGNITION SOURCES. PROVIDE ADEQUATE VENTILATION. AVOID EXCESSIVE INHALATION OF VAPOURS. CONTAIN SPILLAGE IMMEDIATELY BY USE OF SAND OR INERT POWDER. DISPOSE OF ACCORDING TO LOCAL REGULATIONS.
6.4 REFERENCES TO OTHER SECTIONS	REFER & CONSIDER SECTION 8. REFER & CONSIDER SECTION 13.
SECTION 7: HANDLING & STORAGE	
7.1 PRECAUTIONS FOR SAFE-HANDLING	HANDLE IN ACCORDANCE WITH GOOD HYGIENE AND SAFETY PRACTICE. KEEP AWAY FROM HEAT, SPARKS, OPEN FLAMES AND HOT SURFACES. - NO SMOKING. USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED. USE IN ACCORDANCE WITH GOOD MANUFACTURING AND INDUSTRIAL HYGIENE PRACTICES. USE IN AREAS WITH ADEQUATE VENTILATION DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.
7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES	KEEP THE PRODUCT CONTAINER TIGHTLY CLOSED, IN A DRY, VENTILATED AREA. KEEP AWAY FROM POTENTIAL SOURCES OF IGNITION AND PROTECTED FROM LIGHT. MAINTAIN LIMITED CONTACT WITH OXYGEN.
7.3 SPECIFIC END USE(S)	NO DATA.

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SECTION 8: EXPOSURE CONTROLS & PERSONAL PROTECTION

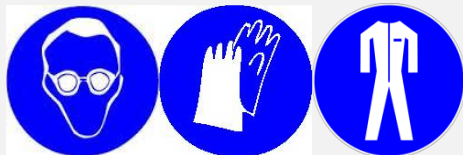
8.1 CONTROL PARAMETERS

Chemical Name	European Union	United Kingdom	France	Spain	Germany
d-Limonene 5989-27-5	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	S* TWA: 30 ppm TWA: 168 mg/m ³	TWA: 5 ppm TWA: 28 mg/m ³ Ceiling / Peak: 20 ppm Ceiling / Peak: 112 mg/m ³ Skin
beta-Pinene 127-91-3	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 113 mg/m ³	-
gamma-Terpinene 99-85-4	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Citral 5392-40-5	-	-	-	S* TWA: 5 ppm	-
Myrcene 123-35-3	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Dextro alpha-Pinene 7785-70-8	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
alpha-Pinene 80-56-8	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 113 mg/m ³	-
Sabinene 3387-41-5	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Terpinolene 586-62-9	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
delta-3-Carene 13466-78-9	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	TWA: 20 ppm TWA: 113 mg/m ³	-
para-Cymene 99-87-6	-	-	TWA: 150 mg/m ³ TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
trans beta-Ocimene 3779-61-1	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
alpha-Phellandrene 99-83-2	-	-	TWA: 1000 mg/m ³ STEL: 1500 mg/m ³	-	-
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
d-Limonene 5989-27-5	-	-	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 50 ppm STEL: 280 mg/m ³	-
beta-Pinene 127-91-3	-	TWA: 20 ppm	-	-	-
alpha-Pinene 80-56-8	-	TWA: 20 ppm	-	-	-
delta-3-Carene 13466-78-9	-	TWA: 20 ppm	-	-	-
para-Cymene 99-87-6	-	-	-	-	TWA: 25 ppm TWA: 135 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
d-Limonene 5989-27-5	-	STEL: 14 ppm STEL: 80 mg/m ³ TWA: 7 ppm TWA: 40 mg/m ³ Skin	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³	-
beta-Pinene 127-91-3	-	STEL: 40 ppm STEL: 224 mg/m ³ TWA: 20 ppm TWA: 112 mg/m ³ Skin	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³	-
Citral 5392-40-5	-	-	STEL: 54 mg/m ³ TWA: 27 mg/m ³	-	-
Myrcene 123-35-3	-	-	-	TWA: 40 ppm TWA: 275 mg/m ³ STEL: 60 ppm STEL: 343.75 mg/m ³	-
alpha-Pinene 80-56-8	-	STEL: 40 ppm STEL: 224 mg/m ³ TWA: 20 ppm TWA: 112 mg/m ³ Skin	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³ Skin	-
delta-3-Carene 13466-78-9	-	STEL: 40 ppm STEL: 224 mg/m ³ TWA: 20 ppm TWA: 112 mg/m ³ Skin	-	TWA: 25 ppm TWA: 140 mg/m ³ STEL: 37.5 ppm STEL: 175 mg/m ³	-

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8.2 EXPOSURE CONTROLS



EYE PROTECTION	WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION.
HAND PROTECTION	WEAR PROTECTIVE GLOVES/EYE PROTECTION/FACE PROTECTION.
RESPIRATORY EQUIPMENT	UNDER NORMAL CONDITIONS OF USE AND WHERE ADEQUATE VENTILATION IS AVAILABLE TO PREVENT BUILD UP OF EXCESSIVE VAPOUR, THIS MATERIAL SHOULD NOT REQUIRE SPECIAL ENGINEERING CONTROLS. HOWEVER, IN CONDITIONS OF HIGH OR PROLONGED USE, OR HIGH TEMPERATURE OR OTHER CONDITIONS WHICH INCREASE EXPOSURE, THE FOLLOWING ENGINEERING CONTROLS CAN BE USED TO MINIMISE EXPOSURE TO PERSONNEL: A) INCREASE VENTILATION OF THE AREA WITH LOCAL EXHAUST VENTILATION. B) PERSONNEL CAN USE AN APPROVED, APPROPRIATELY FITTED RESPIRATOR WITH ORGANIC VAPOUR CARTRIDGE OR CANISTERS AND PARTICULATE FILTERS. C) USE CLOSED SYSTEMS FOR TRANSFERRING AND PROCESSING THIS MATERIAL. ALSO REFER TO SECTIONS 2 AND 7.
HYGIENE MEASURES	GOOD PERSONAL HYGIENE PRACTICES ARE ALWAYS ADVISABLE, ESPECIALLY WHEN WORKING WITH CHEMICALS / OILS.
ENGINEERING MEASURES	PROVIDE ADEQUATE VENTILATION.
SKIN PROTECTION	WEAR PROTECTIVE CLOTHING TO REDUCE THE RISK OF SKIN AND EYE CONTACT.
PERSONAL PROTECTION	AVOID INHALATION OF THE PRODUCT. AVOID CONTACT WITH SKIN AND EYES.
OTHER PROTECTION	WEAR SUITABLE PROTECTION TO AVOID CONTACT WITH SKIN AND EYES. DO NOT INHALE VAPOURS.
PROCESS CONDITIONS	ENSURE AREA IS WELL VENTILATED. AVOID VAPOUR INHALATION. SAFETY SHOWER & EYE BATH.
ENVIROMENTAL EXPOSURE CONTROLS	AVOID DISCHARGING INTO DRAINAGE WATER.

SECTION 9: PHYSICAL & CHEMICAL PROPERTIES

9.1 PHYSICAL & CHEMICAL PROPERTIES	
APPEARANCE	LIQUID
COLOUR	COLOURLESS - YELLOW – GREEN
ODOUR	CHARACTERISTIC - LEMON
RELATIVE DENSITY	0.848 – 0.861 @ 25°C
FLASH POINT (°C)	48°C
REFRACTIVE INDEX @ 20 °C	1.4710 – 1.4760 @ 20°C
SOLUBILITY IN WATER @ 20 °C	NO DATA.
AUTO-IGNITION TEMPERATURE (°C)	NO DATA.
9.2 OTHER INFORMATION	NO DATA.

SECTION 10: STABILITY & REACTIVITY

10.1 REACTIVITY	PRESENTS NO SIGNIFICANT REACTIVITY HAZARDS, BY ITSELF OR IN CONTACT WITH WATER. STABLE UNDER NORMAL TEMPERATURE AND STORAGE CONDITIONS AND RECOMMENDED USE.
10.2 CHEMICAL STABILITY	STABLE UNDER SUGGESTED STORAGE CONDITIONS (<15°C).
10.3 POSSIBILITY OF HAZARDOUS REACTIONS	NOT EXPECTED UNDER NORMAL CONDITIONS OF USE.
10.4 CONDITIONS TO AVOID	HEAT, FLAMES AND SPARKS.
10.5 INCOMPATIBLE MATERIALS	P.V.C

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**10.6
HAZARDOUS DECOMPOSITION PRODUCTS**

THIS PRODUCT DOES NOT DECOMPOSE UNDER NORMAL CONDITIONS. UNDER FIRE CONDITIONS THE PRODUCT WILL PRODUCE A MIXTURE OF IRRITATING FUMES & SMOKE & CARBON MONOXIDE.

SECTION 11: TOXICOLOGICAL INFORMATION

**11.1
TOXICOLOGICAL EFFECTS**

ACUTE TOXICITY	<p>THE FOLLOWING VALUES ARE CALCULATED BASED ON CHAPTER 3.1 OF THE GHS DOCUMENT ATEMIX (ORAL) >2,000.00 MG/KG ATEMIX (DERMAL) >5,000.00 MG/KG 90.4487 % OF THE MIXTURE CONSISTS OF INGREDIENT(S) OF UNKNOWN ACUTE DERMAL TOXICITY. 95.5488 % OF THE MIXTURE CONSISTS OF INGREDIENT(S) OF UNKNOWN ACUTE INHALATION TOXICITY (GAS) 95.5488 % OF THE MIXTURE CONSISTS OF INGREDIENT(S) OF UNKNOWN ACUTE INHALATION TOXICITY (VAPOR) 95.5488 % OF THE MIXTURE CONSISTS OF INGREDIENT(S) OF UNKNOWN ACUTE INHALATION TOXICITY (DUST/MIST)</p>
SKIN IRRITATION	IRRITATING TO SKIN.
EYE DAMAGE OR IRRITATION	CAUSES SERIOUS EYE IRRITATION.
RESPIRATORY OR SKIN SENSITIVITY	MAY CAUSE SENSITISATION BY SKIN CONTACT.
GERM CELL MUTAGENICITY	NOT CLASSIFIED.
CARCINOGENICITY	NOT CLASSIFIED.
REPRODUCTIVE TOXICITY	SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD. CONTAINS A KNOWN OR SUSPECTED REPRODUCTIVE TOXIN. GAMMA-TERPINENE. PARA-CYMENE.
STOT – SINGLE EXPOSURE	NOT CLASSIFIED.
STOT – REPEATED EXPOSURE	NOT CLASSIFIED.
ASPIRATION HAZARD	MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS (H304).
OTHER INFORMATION	NO DATA.

SECTION 12: ECOLOGICAL INFORMATION

12.1 TOXICITY	<table border="1"> <thead> <tr> <th>Chemical Name</th> <th>Crustacea</th> <th>Algae/aquatic plants</th> <th>Fish</th> </tr> </thead> <tbody> <tr> <td>d-Limonene</td> <td>48hr EC50 - 0.4 mg/L (Daphnia magna)</td> <td>96 hr NOEC - 4mg/L (Green algae)</td> <td>96hr LC50 - 0.7mg/L (Pimephales promelas)</td> </tr> <tr> <td>Citral</td> <td>7: 48 h Daphnia magna mg/L EC50</td> <td></td> <td>4.6 - 10: 96 h Leuciscus idus mg/L LC50 static</td> </tr> <tr> <td>alpha-Terpineol</td> <td>48hr EC50 - 73 mg/l (Daphnia magna)</td> <td>72hr EC50 - 68mg/l</td> <td>96hr LC50 - 62 to 80 mg/L (Danio rerio)</td> </tr> <tr> <td>Linalool</td> <td>48hr EC50 - 59mg/L (Daphnia magna)</td> <td>96hr EC50 - 156.7 mg/L; EC10 or NOEC - 54.3 mg/L (Desmodesmus subspicatus)</td> <td>96hr LC50 - 27.8mg/L (Salmo gairdneri)</td> </tr> <tr> <td>alpha-Pinene</td> <td>41: 48 h Daphnia magna mg/L LC50</td> <td></td> <td>0.28: 96 h Pimephales promelas mg/L LC50 static</td> </tr> <tr> <td>Eucalyptol</td> <td>48hr EC50/LC50 - 100 mg/L (Daphnia magna)</td> <td>72hr EC50 - 74 mg/L; EC10 or NOEC - 37 mg/L (Pseudokirchneriella subcapitata)</td> <td>96 HR LC50 for freshwater fish - 57 mg/L (Oncorhynchus mykiss)</td> </tr> <tr> <td>para-Cymene</td> <td>72hr ErC50 - 4.03 mg/L; NOErC - 1.4 mg/L (Scenedesmus)</td> <td>48hr EC50 - 100 mg/L</td> <td>96hr LC50 - 48 mg/L (Cyprinodon variegatus)</td> </tr> </tbody> </table>				Chemical Name	Crustacea	Algae/aquatic plants	Fish	d-Limonene	48hr EC50 - 0.4 mg/L (Daphnia magna)	96 hr NOEC - 4mg/L (Green algae)	96hr LC50 - 0.7mg/L (Pimephales promelas)	Citral	7: 48 h Daphnia magna mg/L EC50		4.6 - 10: 96 h Leuciscus idus mg/L LC50 static	alpha-Terpineol	48hr EC50 - 73 mg/l (Daphnia magna)	72hr EC50 - 68mg/l	96hr LC50 - 62 to 80 mg/L (Danio rerio)	Linalool	48hr EC50 - 59mg/L (Daphnia magna)	96hr EC50 - 156.7 mg/L; EC10 or NOEC - 54.3 mg/L (Desmodesmus subspicatus)	96hr LC50 - 27.8mg/L (Salmo gairdneri)	alpha-Pinene	41: 48 h Daphnia magna mg/L LC50		0.28: 96 h Pimephales promelas mg/L LC50 static	Eucalyptol	48hr EC50/LC50 - 100 mg/L (Daphnia magna)	72hr EC50 - 74 mg/L; EC10 or NOEC - 37 mg/L (Pseudokirchneriella subcapitata)	96 HR LC50 for freshwater fish - 57 mg/L (Oncorhynchus mykiss)	para-Cymene	72hr ErC50 - 4.03 mg/L; NOErC - 1.4 mg/L (Scenedesmus)	48hr EC50 - 100 mg/L	96hr LC50 - 48 mg/L (Cyprinodon variegatus)
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12.2 PERSISTENCE & DEGRADABILITY	NO ADDITIONAL INFORMATION AVAILABLE.																																			
12.3 BIO- ACCUMULATIVE POTENTIAL	NO ADDITIONAL INFORMATION AVAILABLE.																																			
12.4 MOBILITY IN SOIL	NO ADDITIONAL INFORMATION AVAILABLE.																																			
12.5 RESULTS OF PBT & VPVB ASSESSMENT	NO ADDITIONAL INFORMATION AVAILABLE.																																			
12.6	NO ADDITIONAL INFORMATION AVAILABLE.																																			

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OTHER ADVERSE EFFECTS	
SECTION 13: DISPOSAL INFORMATION	
13.1 WASTE TREATMENT METHODS	THE CONTAINERS USED FOR THIS PRODUCT MUST BE COMPLETELY EMPTY BEFORE DISPOSAL. DISPOSE PRODUCT AND / OR CONTAMINATED PACKAGING IN ACCORDANCE WITH LOCAL AND INTERNATIONAL REGULATIONS. DISPOSAL THROUGH THE WASTE WATER IS ILLEGAL.

SECTION 14: TRANSPORT INFORMATION	
14.1 TRANSPORT INFORMATION	
UN NUMBER	ROAD: 1993 RAIL: 1993 AIR: 1993
14.2 UN SHIPPING NAME	FLAMMABLE LIQUID, N.O.S.
14.3 TRANSPORT HAZARD CLASS(ES)	<p>IMDG 14.1 UN/ID NO 1993 14.2 PROPER SHIPPING NAME FLAMMABLE LIQUID, N.O.S. 14.3 HAZARD CLASS 3 14.4 PACKING GROUP III DESCRIPTION (LIMONENE) 14.5 MARINE POLLUTANT THIS PRODUCT CONTAINS A CHEMICAL WHICH IS LISTED AS A MARINE POLLUTANT ACCORDING TO IMDG/IMO ENVIRONMENTAL HAZARD YES 14.6 SPECIAL PROVISIONS 223, 274, 955 EMS-No F-E, S-E 14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL 73/78 AND THE IBC CODE IBC03</p> <p>RID 14.1 UN/ID NO 1993 14.2 PROPER SHIPPING NAME FLAMMABLE LIQUID, N.O.S. 14.3 HAZARD CLASS 3 14.4 PACKING GROUP III DESCRIPTION (LIMONENE) 14.5 ENVIRONMENTAL HAZARD YES 14.6 SPECIAL PROVISIONS NONE</p> <p>ADR 14.1 UN/ID NO 1993 14.2 PROPER SHIPPING NAME FLAMMABLE LIQUID, N.O.S. 14.3 HAZARD CLASS 3 LABELS 3 14.4 PACKING GROUP III DESCRIPTION (LIMONENE) 14.5 ENVIRONMENTAL HAZARD YES 14.6 SPECIAL PROVISIONS 274, 601 CLASSIFICATION CODE F1 TUNNEL RESTRICTION CODE (D/E)</p> <p>ICAO (AIR) 14.1 UN/ID NO 1993 14.2 PROPER SHIPPING NAME FLAMMABLE LIQUID, N.O.S. 14.3 HAZARD CLASS 3 14.4 PACKING GROUP III DESCRIPTION (LIMONENE) 14.5 ENVIRONMENTAL HAZARD YES 14.6 SPECIAL PROVISIONS NONE</p>

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14.4 PACKING GROUP	ADR/RID/ADN PACKING GROUP III IMDG PACKING GROUP III ICAO PACKING GROUP III
14.5 ENVIROMENTAL HAZARDS	ENVIRONMENTALLY HAZARDOUS SUBSTANCE/MARINE POLLUTANT 
14.6 SPECIAL PRECAUTIONS FOR USER	CONTAINS CONSTITUENTS THAT ARE FLAMMABLE & DANGEROUS TO THE ENVIRONMENT.
14.7 TRANSPORT IN BULK ACCORDING TO ANNEX II OF MARPOL73/78 & THE IBC CODE.	NO ADDITIONAL DATA.
SECTION 15: REGULATORY INFORMATION	
15.1 PRODUCT SPECIFIC SAFETY, HEALTH & ENVIRONMENTAL REGULATIONS & LEGISLATION	
EU DIRECTIVES	REGULATION (EC) NO 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 TH DECEMBER 2006. CONCERNING THE REGISTRATION, EVALUATION, AUTHORIZATION & RESTRICTION OF CHEMICALS (REACH), ESTABLISHING A EUROPEAN CHEMICALS AGENCY, AMENDING DIRECTIVE 1999/45/EC AND REPEALING COUNCIL REGULATION (EEC) NO793/93 & COMMISSION REGULATION (EC) NO1488/94 AS WELL AS COUNCIL DIRECTIVE 76/769/EEC & COMMISSION DIRECTIVE 91/155/ECC, 93/67/ECC, 93/105/EEC & 2000/21/EC (INCLUDING AMENDMENTS).
STATUTORY INSTRUMENTS	THE CHEMICALS (HAZARD INFORMATION & PACKAGING FOR SUPPLY REGULATIONS 2009 (S.I.2009 NO 716).
APPROVED CODE OF PRACTICE	CLASSIFICATION & LABELLING OF SUBSTANCES & PREPARATIONS DANGEROUS FOR SUPPLY. SAFETY DATA SHEETS FOR SUBSTANCES & PREPARATIONS.
GUIDANCE NOTES	WORKPLACE EXPOSURE LIMITS EH40. CHIP FOR EVERYONE HSG 108.
15.2 CHEMICAL SAFETY ASSESSMENT	-

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SECTION 16: OTHER INFORMATION

HAZARD AND/ OR PRECAUTIONARY STATEMENTS IN FULL

H226 - FLAMMABLE LIQUID AND VAPOR
 H227 - COMBUSTIBLE LIQUID
 H302 - HARMFUL IF SWALLOWED
 H303 - MAY BE HARMFUL IF SWALLOWED
 H304 - MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS
 H313 - MAY BE HARMFUL IN CONTACT WITH SKIN
 H315 - CAUSES SKIN IRRITATION
 H316 - CAUSES MILD SKIN IRRITATION
 H317 - MAY CAUSE AN ALLERGIC SKIN REACTION
 H319 - CAUSES SERIOUS EYE IRRITATION
 H361 - SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD
 H400 - VERY TOXIC TO AQUATIC LIFE
 H401 - TOXIC TO AQUATIC LIFE
 H402 - HARMFUL TO AQUATIC LIFE
 H410 - VERY TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS
 H411 - TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS
 H412 - HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS
 H413 - MAY CAUSE LONG LASTING HARMFUL EFFECTS TO AQUATIC LIFE

TRAINING INSTRUCTIONS: REFER TO POSSIBLE HAZARD BEFORE USE OF THIS PRODUCT.

ABBREVIATIONS & ACRONYMS:

MSDS	MATERIAL SAFETY DATA SHEET.
INCI	INTERNATIONAL NOMENCLATURE OF COSMETIC INGREDIENTS.
CAS	CHEMICAL ABSTRACT SERVICE.
IMDG	INTERNATIONAL MARITIME CODE FOR DANGEROUS GOODS.
ADR	ACCORD EUROPEAN SUR LE TRANSPORT DES MARCHANDISES DANGEREUSES PAR ROUTE (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD).
RID	INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY RAIL.
ICAO	INTERNATIONAL CIVIL AVIATION ORGANIZATION.
ADN	INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS.
GHS	GLOBALLY HARMONIZED SYSTEM OF CLASSIFICATION & LABELLING OF CHEMICALS.
TREM CARD	TRANSPORT EMERGENCY CARD.
STOT	SPECIFIC TARGET ORGAN TOXICITY.

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DOCUMENTATION REVISION	
DATE	CHANGE DESCRIPTION
10TH APRIL 2018	DATA LAUNCH
NOVEMBER 2020	REVIEW
2021	REVIEW

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