Safety Data Sheet

Issuing Date 18-Jun-2020 **Revision Date** 18-Jun-2020 **Revision Number** 5

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name BIOACT™ 108

Other means of identification
Product Code PC108
UN-No UN3295

Recommended use of the chemical and restrictions on use
Recommended Use Technical cleaning solvent.

Details of the supplier of the safety data sheet
Manufacturer Address Vantage Specialties, Inc.
3938 Porett Drive
Gurnee, IL 60031 USA
847-244-3410

Emergency Telephone Number
Emergency Telephone Number CHEMTREC US: 1-800-424-9300
CHEMTREC International: +1-703-527-3887

2. HAZARDS IDENTIFICATION

Classification

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Reproductive Toxicity	Category 1B
Aspiration toxicity	Category 1
Flammable Liquid	Category 3

Label Elements

EMERGENCY OVERVIEW

DANGER

Hazard statements
Causes eye irritation
Causes skin irritation
May cause an allergic skin reaction
May damage fertility or the unborn child
May be fatal if swallowed and enters airways
Flammable liquid and vapor

Color Colorless to light Yellow **Physical State** Liquid **Odor** Citrus

Precautionary Statements - Prevention
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Keep away from flames and hot surfaces. — No smoking.
Use only outdoors or in a well ventilated area
Take precautionary measures against static discharge
Wash hands thoroughly after handling

Precautionary Statements - Response
If exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell
IF SWALLOWED: DO NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician
INCASE OF FIRE USE: dry chemical. foam. carbon dioxide. water spray, class ABC fire extinguisher.

Precautionary Statements - Storage
Store in a well-ventilated place. Keep cool
Store locked up

Precautionary Statements - Disposal
Dispose of contents/container in accordance with applicable regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
D-Limonene	5989-27-5	60 - 90
2-Propanol, 1-propoxy-	1569-01-3	10 - 30
(2-methoxymethylethoxy)propanol	34590-94-8	5 - 15
1-Methyl-2-pyrrolidone	872-50-4	1 - 10

4. FIRST AID MEASURES

FIRST AID MEASURES

Eye contact IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists, consult a physician.

Skin contact IF ON SKIN: Rinse exposed skin with plenty of water. Remove contaminated clothing. If irritation or rash occurs, get medical attention.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

Self-protection of the first aider Use personal protective equipment.

Most important symptoms and effects, both acute and delayed

Symptoms Headache/dizziness. Skin irritation, allergic reaction.

Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media Dry chemical. Foam. Carbon dioxide. Water spray or fog. Class ABC/BC fire extinguisher.

Unsuitable extinguishing media Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical Discarded towels or wipes soaked with solvent may smolder if not properly contained.

Hazardous combustion products Carbon oxides.

Explosion Data
Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge May be ignited by heat, sparks or flames.

Protective equipment and precautions for firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Use personal protective equipment. Remove all sources of ignition. Ensure adequate ventilation.

Environmental precautions

Environmental precautions Prevent release to surface water. Prevent product from entering drains.

Methods and material for containment and cleaning up

Methods for Containment Dike to collect large liquid spills.

Methods for Cleaning Up Take up with sand or other noncombustible absorbent material and place into containers for later disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Wear personal protective equipment. Avoid contact with eyes, skin and clothing. Do not breathe mist/vapors/spray. Ensure adequate ventilation. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Keep away from open flames, hot surfaces and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place.

Incompatible materials Strong acids. Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines .

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH

(2-methoxymethylethoxy)propanol 34590-94-8	STEL: 150 ppm TWA: 100 ppm	TWA: 100 ppm(skin)	IDLH: 600 ppm TWA: 100 ppm TWA: 600 mg/m^3 STEL: 150 ppm STEL: 900 mg/m^3

Appropriate engineering controls

Engineering Measures Safety Shower
Eyewash station
Ventilation system.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Safety glasses with side-shields.

Skin and Body Protection Long sleeved clothing. Wear protective gloves/clothing.

Respiratory Protection In case of insufficient ventilation, wear suitable respiratory equipment.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical State	Liquid		
Appearance	Clear	**Odor**	Citrus
Color	Colorless to light Yellow	**Odor threshold**	Not determined

Property	**Values**	**Remarks • Method**
pH		Not Applicable
Melting point / freezing point		No data available
Boiling point / boiling range	151 - 189 °C / 304 - 372 °F	
Flash Point	49 °C / 120 °F	CC (closed cup)
Evaporation Rate	<1	(BUAC = 1)
Flammability (solid, gas)		Flammable liquid and vapor
Flammability Limit in Air		Published data for d-Limonene
Upper flammability limit	6.1%	
Lower Flammability Limit	0.7%	
Vapor pressure	< 2	mm Hg
Vapor Density	>1	(air = 1)
Specific Gravity	0.86	@ 25°C
Water Solubility	Partially soluble	
Solubility in other solvents		Not determined
Partition coefficient		No data available
Autoignition Temperature		No data available
Decomposition temperature		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Explosive Properties	None	
Oxidizing Properties	None	

Other Information

10. STABILITY AND REACTIVITY

Reactivity Not reactive
Remarks

Chemical stability Stable under recommended storage conditions.

Possibility of Hazardous Reactions

Hazardous Reactions None under normal processing.
Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid Extremes of temperature and direct sunlight.

Incompatible materials Strong acids. Strong oxidizing agents.

Hazardous Decomposition Products
None identified.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause drowsiness and dizziness.

Eye contact Irritating to eyes.

Skin contact May cause sensitization by skin contact. Irritating to skin.

Ingestion Potential for aspiration if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
D-Limonene 5989-27-5	= 4400 mg/kg (Rat) = 5200 mg/kg (Rat)	> 5 g/kg (Rabbit)	-
2-Propanol, 1-propoxy- 1569-01-3	= 2490 mg/kg (Rat) = 2504 mg/kg (Rat)	= 3550 mg/kg (Rabbit)	-
(2-methoxymethylethoxy)propanol 34590-94-8	= 5.35 g/kg (Rat)	= 9500 mg/kg (Rabbit)	-
1-Methyl-2-pyrrolidone 872-50-4	= 3914 mg/kg (Rat)	= 8 g/kg (Rabbit)	> 5.1 mg/L (Rat) 4 h

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation dry skin, eczema.
Serious eye damage/eye irritation pain, tearing.
Sensitization Repeated or prolonged contact may cause allergic reactions in very susceptible persons.
Mutagenic Effects No known hazard.
Carcinogenicity Contains no listed human carcinogens at greater than 0.1%.

Chemical Name	ACGIH	IARC	NTP	OSHA
D-Limonene 5989-27-5				X

Reproductive Toxicity 1-methyl -2-pyrrolidone (CAS 872-50-4) has shown evidence of reproductive toxicity in animal studies.

Developmental Toxicity 1-methyl -2-pyrrolidone (CAS 872-50-4) has shown evidence of developmental toxicity in animal studies.

STOT - single exposure Inhalation of vapors may cause dizziness and drowsiness.

STOT - repeated exposure No known hazard.
Aspiration hazard May be fatal if swallowed and enters airways.

Numerical measures of Not determined

toxicity-Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity
Very toxic to aquatic life

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
D-Limonene 5989-27-5		LC50= 35 mg/L Oncorhynchus mykiss 96 h LC50 0.619 - 0.796 mg/L Pimephales promelas 96 h		LC50 (48h): 0.58 - 0.92 mg/l Daphnia magna
(2-methoxymethylethoxy)propanol 34590-94-8		LC50> 10000 mg/L Pimephales promelas 96 h		LC50 = 1919 mg/L 48 h
1-Methyl-2-pyrrolidone 872-50-4	EC50 > 500 mg/L 72 h	LC50= 832 mg/L Lepomis macrochirus 96 h LC50= 1400 mg/L Poecilia reticulata 96 h LC50= 4000 mg/L Leuciscus idus 96 h LC50= 1072 mg/L Pimephales promelas 96 h		EC50 = 3135 mg/L 96 h EC50 = 4897 mg/L 48 h

Persistence and degradability
No data available.

Bioaccumulation/Accumulation
d-Limonene BCF: 683

Mobility
No data available.

Chemical Name	Partition coefficient
(2-methoxymethylethoxy)propanol 34590-94-8	= -0.064 20 °C
1-Methyl-2-pyrrolidone 872-50-4	= -0.46 25 °C

Other Adverse Effects

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method Dispose of in accordance with applicable regulations.

Contaminated Packaging Dispose of in accordance with applicable regulations.

US EPA Waste Number D001

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
D-Limonene 5989-27-5	Toxic

14. TRANSPORT INFORMATION

DOT

UN-No UN3295
Proper Shipping Name Hydrocarbons, liquid, N.O.S.

Hazard Class	3
Packing Group	III
Special Provisions	Exempt from regulation by US DOT when shipped in the USA solely by land in containers less than 119 gallons, refer to 49 CFR 173.150(f).

TDG

UN-No	UN3295
Proper Shipping Name	Hydrocarbons, liquid, N.O.S.
Hazard Class	3
Packing Group	III

MEX

UN-No	UN3295
Proper Shipping Name	HIDROCARBUROS LÍQUIDOS, N.E.P.
Hazard Class	3
Packing Group	III

IATA

UN-No	UN3295
Proper Shipping Name	Hydrocarbons, liquid, N.O.S.
Hazard Class	3
Packing Group	III

IMDG / IMO

UN-No	UN3295
Proper Shipping Name	Hydrocarbons, liquid, N.O.S.
Hazard Class	3
Packing Group	III
Marine Pollutant	Yes
Description	d-Limonene

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations

SARA 313

This product contains chemicals that may be present at levels which make it subject to reporting under SARA section 313:

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
(2-methoxymethylethoxy)propanol - 34590-94-8	34590-94-8	5 - 15	1.0
1-Methyl-2-pyrrolidone - 872-50-4	872-50-4	1 - 10	1.0

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	Yes
Sudden release of pressure hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
1-Methyl-2-pyrrolidone - 872-50-4	Developmental

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
(2-methoxymethylethoxy)propanol 34590-94-8	X	X	X
1-Methyl-2-pyrrolidone 872-50-4	X	X	X

Additional information

N-methyl pyrrilodone (CAS 872-50-4) is the subject of a TSCA section 6 risk management rule.

16. OTHER INFORMATION

NFPA	**Health Hazard** 2	**Flammability** 2	**Instability** 0	**Physical and Chemical Hazards** n/a
HMIS	**Health Hazard** 2*	**Flammability** 2	**Physical hazards** 0	**Personal Precautions** B

Prepared by	Product Steward
Issuing Date	18-Jun-2020
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Revision Note	
Reason for Revision	Periodic review and update

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet