



Revision: 01

Safety Data Sheet

ChitoVan™ 1.0%

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Manufacturer's Name: Dungeness Environmental
Corporate Address: 909 SE Everett Mall Way, Ste. A119, Everett, WA
 98208
Manufacturer's Telephone: (425) 481-0600 (Monday-Friday, 8AM-5PM PDT)
Emergency Telephone (24 Hours): (206) 390-2432 (Domestic, North America)
 (Country Exit Code) +1-(425) 481-0600 (International)
Material/Trade/Product Name: ChitoVan™ 1.0%
Synonyms: None
Chemical Name: Chitosan Acetate Solution
Chemical Formula: Not available
CAS No.: Not applicable
EPA Registration #: Not applicable
Product Use: Flocculates soil contamination in Stormwater.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

CAS NO.	COMPONENT	%	OSHA HAZARDOUS?
Trade Secret	Trade Secret	4	NO
	<i>All other components are non-hazardous.</i>	96	NO

NOTE: See Section 8 for permissible exposure limits.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Clear to pale yellow viscous liquid with a pungent vinegar odor.
 May be mildly irritating to eyes. Not likely to be hazardous to skin, respiratory tract, or by ingestion.

POTENTIAL HEALTH EFFECTS

EYE: May be mildly irritating to eyes.

SKIN: Not hazardous to skin.

INHALATION: Not likely to be hazardous by inhalation.

INGESTION: Not likely to be hazardous by ingestion.

CHRONIC EXPOSURE/CARCINOGENICITY: None of the components present in this material at concentrations of equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

SIGNS AND SYMPTOMS OF OVEREXPOSURE: Eye irritation.

AGGRAVATION OF PRE-EXISTING CONDITIONS: None known.

POTENTIAL ENVIRONMENTAL EFFECTS: Material is 100% biodegradable and nontoxic.

SECTION 4: FIRST AID MEASURES

FIRST AID PROCEDURES

EYE CONTACT: Remove contact lenses (if applicable), flush with water for 15 minutes. Call a physician.

SKIN CONTACT: Cleansing the skin after exposure is advisable.

INHALATION: If large amounts of fumes are inhaled, remove to fresh air and consult a physician.

INGESTION: Consult a physician if necessary.

NOTE TO PHYSICIANS: None.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT: Not available
UPPER FLAMMABLE LIMIT: Not available
FLAMMABILITY CLASS (OSHA): Not applicable

AUTOIGNITION TEMPERATURE: Not available
LOWER FLAMMABLE LIMIT: Not available
FLAME PROPAGATION/BURNING RATE: Not available

UNIQUE FIRE PROPERTIES: None known.
HAZARDOUS COMBUSTION PRODUCTS: None.

EXTINGUISHING MEDIA: Does not burn. Use water, dry chemicals, carbon dioxide, sand or foam. Use extinguishing media appropriate for surrounding fire.

PROTECTION OF FIREFIGHTERS: Do not enter confined fire space without full bunker gear (helmet with face shield, bunker coat, gloves and rubber boots), including a positive pressure NIOSH approved self-contained breathing apparatus. Water may be used to keep fire-exposed containers cool until fire is out.

SECTION 6: ACCIDENTAL RELEASE MEASURES

PERSONAL PROTECTIVE EQUIPMENT: See Section 8 (Personal Protective Equipment).
ENVIRONMENTAL PRECAUTIONS: Material is 100% biodegradable and nontoxic.
METHODS FOR CLEANING UP: Dilute with water and hose down.

SECTION 7: HANDLING AND STORAGE

SAFE HANDLING RECOMMENDATIONS

VENTILATION: General ventilation should be sufficient under normal conditions.
FIRE PREVENTION: Non-flammable, no special fire protection required.
SPECIAL HANDLING REQUIREMENTS: Avoid eye contact.

SAFE STORAGE RECOMMENDATIONS

CONTAINMENT: The container should be kept covered to prevent contamination.
STORAGE ROOM RECOMMENDATIONS: Store in a cool, dry, well-ventilated area away from direct heat.
INCOMPATIBLE MATERIALS: Strong oxidizing material and strong bases.
STORAGE CONDITIONS: 10-50°C (will freeze @ ~3°C). Indefinite Shelf Life; Viscosity will decrease over time.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: General ventilation should be sufficient under normal conditions.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

EYE/FACE PROTECTION: Safety glasses recommended.
SKIN PROTECTION: For operations where skin contact can occur, wear impervious clothing such as apron, boots, or whole bodysuit.
HAND PROTECTION: For operations where hand contact can occur, rubber gloves recommended.
RESPIRATORY PROTECTION: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.
Respirator use is not required for this product.
GOOD HYGIENE/WORK PRACTICES: Always follow good hygiene/work practices by avoiding vapors or mists and contact with eyes and skin. Thoroughly wash hands after handling and before eating or drinking. Always wear the appropriate PPE when repairing or performing maintenance on contaminated equipment.

EXPOSURE GUIDELINES

PERMISSIBLE EXPOSURE LIMITS						
INGREDIENT CAS NO.	OSHA		WISHA		ACGIH (TLV)	
	TWA	STEL	TWA	STEL	TWA	STEL
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

COLOR: Pale yellow to light amber

PHYSICAL FORM: Liquid

pH: 3.0 - 4.5

VAPOR DENSITY: Not available

MELTING POINT: Not available

SOLUBILITY IN WATER: None

SHAPE: Liquid

ODOR: Pungent vinegar odor

VAPOR PRESSURE: Not available

BOILING POINT: Not available

FREEZING POINT: Not available

SPECIFIC GRAVITY OR DENSITY: Not determined

NOTE: These physical data are typical values based on material tested but may vary from sample to sample. Values should not be construed as a guaranteed analysis of any specific lot or as specifications.

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Freezing temperatures or excess heat (for quality purposes).

MATERIALS TO AVOID (INCOMPATIBILITY): Strong oxidizing material and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition will not occur.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

ORAL LD₅₀ (rat): Not available.

DERMAL LD₅₀ (rabbit): Not available.

SKIN IRRITATION: Not available.

EYE IRRITATION: Not available.

SKIN SENSITIZATION: Not available.

ADDITIONAL INFORMATION: None

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICITY (in water):

Acute:

- Daphnia LC 50 – 1369 mg/ L
- Daphnia NOEC – 1000 mg/L
- Fathead minnows LC 50 – 642 mg/L
- Fathead minnows NOEC – 500 mg/L
- Rainbow Trout LC 50 – 173mg/L
- Rainbow Trout NOEC – 125 mg/L

Chronic:

- Rainbow Trout LC 50 – 154 mg /L
- Rainbow Trout LC 25 – 121 mg/L
- Fathead Minnow LC 50 - > 100mg/L
- Fathead Minnow LC25 – 932 mg/L

MOBILITY: Not available.

PERSISTENCE AND DEGRADABILITY: Not available.

BIOACCUMULATIVE POTENTIAL: Not available.

ADDITIONAL INFORMATION: Not available.

SECTION 13: DISPOSAL CONSIDERATIONS

If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal regulations. Consult state and local regulations regarding the proper disposal of this material.

NOTE: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate.

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT):

Proper Shipping Name: Not Regulated
Hazard Class: Not Regulated
Identification Number (UN Number): Not Regulated
Packing Group (PG): Not Regulated

SECTION 15: REGULATORY INFORMATION

TSCA STATUS: The substances in this preparation are included on or exempted from the TSCA 8(b) inventory (40 CFR 710).

CERCLA REPORTABLE QUANTITY (RQ):

CHEMICAL NAME	RQ
Not applicable	Not applicable

SARA TITLE III SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (EHS):

CHEMICAL NAME	TPQ	RQ
Not applicable	Not applicable	Not applicable

SARA TITLE III SECTION 311/312 HAZARD CATEGORIES: Does this product/material meet the definition of the following hazard classes according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of SARA Title III?

ACUTE HEALTH HAZARD	CHRONIC HEALTH HAZARD	FIRE HAZARD	REACTIVE HAZARD	SUDDEN RELEASE OF PRESSURE
NO	NO	NO	NO	NO

SARA TITLE III SECTION 313 TOXIC CHEMICALS INFORMATION:

CHEMICAL NAME	CAS NO.	CONCENTRATION (%)
Not applicable	Not applicable	Not applicable

al(s) is/are known to the state of
or

CALIFORNIA PROPOSITION 65:

reproductive toxicity:

CHEMICAL NAME	CAS NO.	CONCENTRATION (%)
Not applicable	Not applicable	Not applicable

SECTION 16: OTHER INFORMATION

REVISION INFORMATION:

MSDS sections(s) changed since last revision of document:

· None, this SDS is new, in accordance with OSHA's Hazard Communication Standard directive for GHS alignment.

DISCLAIMER:

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