

# SAFETY DATA SHEET

This SDS complies with GHS Revision 5, OSHA 29CFR 1910.1200

## Section 1: Chemical Product and Company Identification

MANUFACTURER'S NAME  
Complus Trading North America LLC  
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Safety Data Sheet Competent Person: Brad Mothersbaugh

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DATE PREPARED: April 12, 2017

REVISION DATE: May 5, 2017

PRODUCT NAME: **AlphaZyme D400 PB**  
FORMULA: Preparation/Mixture  
PRODUCT USE: Enhanced Oil Recovery & Flow Assurance (oil and gas)

## Section 2: Hazards Identification

### GHS Hazard Class

Signal word

Hazard Statement

Precautionary Statements

Prevention

Response

Eye Damage/Irritation -- Category 2



Warning

H319: Causes serious eye irritation

P280: Wear protective gloves/protective clothing/ eye protection/face protection

P264: Wash hands 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.

Hazards not otherwise classified (HNOC) - **None**

HAZARD CLASSIFICATION

Not classified as hazardous based on IATA, IMDG, and DOT.

FIRE AND EXPLOSION

Not considered flammable or combustible.

POTENTIAL HEALTH EFFECTS

< 10 % of mixture consists of ingredients of unknown acute toxicity

APPEARANCE

Semi-clear yellow liquid

NFPA Rating

Component	Health (Blue)	Flammability (Red)	Reactivity (Yellow)	Special (White)
AlphaZyme D300	1	0	0	----

## Section 3: Composition, Information on Ingredients

PRODUCT COMPOSITION	APPROX %	CAS NO.	EC NUMBER	CANADA DSL
Water	90.99	7732-18-5	231-791-2	Y
AlphaZyme D400 DNA proteins (Enzyme)	8	NA	NA	N
Sodium stearate	1	822-16-2	212-490-5	Y
Magnesium sulfate	0.01	7487-88-9	231-298-2	Y



Some items on this SDS may be designated as trade secrets (TS). Bonafide requests for disclosure of trade secret information to medical personnel must be made in accordance with the provisions contained in 29 CFR 1910.1200 I 1-13.

## Section 4: First Aid Measures

### Description of First Aid Measures

Inhalation	Not an inhalation hazard.
Skin Contact	Thoroughly rinse solution off skin with soap and water. If an itching sensation or redness occurs, contact a physician.
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Seek medical attention if irritation persists.
Ingestion	If swallowed, drink one or two glasses of water. Never give anything to an unconscious person. If intestinal symptoms occur, contact physician.

### Most important symptoms and effects, both acute and delayed

Symptoms/Injuries after Inhalation	May cause respiratory tract irritation.
Symptoms/Injuries after Skin Contact	May cause skin irritation. Symptoms may include redness, drying, defatting, and cracking of the skin.
Symptoms/Injuries after Eye Contact	May cause eye irritation. Symptoms may include discomfort or pain, excess blinking and tear production, with possible redness and swelling.
Symptoms/Injuries after Ingestion	May be harmful if swallowed. May cause stomach distress, nausea, or vomiting.

### Indication of any immediate medical attention and special treatment needed

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately.

## Section 5: Fire-fighting Measures

Suitable extinguishing media	Use foam, dry chemical, or carbon dioxide.
Special hazards arising from the substance or mixture	No data available.
Protective actions fire-fighters	Wear standard protective equipment and self contained breathing apparatus for firefighting if necessary.
Further information	Use water spray to cool unopened containers.

## Section 6: Accidental Release Measures

### Personal precautions, protective equipment, and emergency procedures

Wear proper personal protective equipment. Avoid breathing vapors or mist.

### Environmental precautions

None

### Methods and materials for containment and cleaning up

In case of small spills, absorb with inert materials such as earth or dry sand. Place in a chemical waste container.  
In case of large spills, dike the spill, if possible. Call emergency services. Absorb the chemical.

**Reference to other Sections** For personal protection reference section 8. For disposal reference section 13.

## Section 7: Handling and Storage

### Precautions for safe handling

Use only with adequate ventilation.  
Wear proper protective equipment when handling this material.  
Avoid contact with skin, eyes, or clothing.  
Wash hands after handling this material.  
For precautions see section 2.

### Conditions for safe storage, including any incompatibilities



Enzyme solution may be stored in most any area, but should be kept away from direct heat or in an area where temperatures can reach over 160 F for prolonged period of time. Shelf life: over 3 years, use within 3 years.

**Specific uses**

This substance is used for Enhanced Oil Recovery & Flow Assurance (oil and gas).

**Section 8: Exposure Controls/Personal Protection**

**Control Parameters**

Contains no substances with occupational exposure limit values.

**Exposure controls**

<p>VENTILATION:  <i>SPECIAL VENTILATION CONTROLS:</i>          RESPIRATORY PROTECTION:</p>	<p>Always provide adequate ventilation where this material is used.  <i>None</i>          Follow the OSHA respirator regulations found in 29 CFR 1910.134 or the CEN European Standards (EU). Use a NIOSH/MSHA or European Standard (EN) approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. Canadian CSA Standard Z94.4-93.</p>
<p>PROTECTIVE GLOVES:          EYE PROTECTION:          SKIN PROTECTION:          WORK/HYGIENE PRACTICES:          OTHER EQUIPMENT:</p>	<p>Neoprene, butyl, or nitrile rubber gloves are recommended.          Recommend eye protection using safety glasses or goggles.          Suitable protective clothing to prevent skin contact.          Avoid breathing mist. Avoid contact with eyes. Wash hands after handling.          Make safety shower, eyewash stations, and hand washing equipment available in the work area.</p>

**Section 9: Physical and Chemical Properties**

	PRODUCT CRITERIA
APPEARANCE - COLOR	Semi-clear yellow
PHYSICAL STAT	Liquid
ODOR	Slight fermentation odor
ODOR THRESHOLD	Data not available
PH	3.5 - 5 (in concentrated form); Injection at dilution form, pH : 6 to 7.
MELTING POINT/FREEZING POINT	32°F or 0°C
INITIAL BOILING POINT AND BOILING RANGE	212°F or 100°C
FLASH POINT	Data not available
EVAPORATION RATE	< 1 (butyl / acetate = 1)
FLAMMABILITY (Solid, gas)	Not flammable
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	Data not applicable
VAPOR PRESSURE	17.5 mmHg - 20°C
VAPOR DENSITY (AIR = 1)	Data not available
SPECIFIC GRAVITY (@25 °C)	1.0 g/m <sup>3</sup>
SOLUBILITY(IES)	Soluble in water
OXIDIZING PROPERTIES	Data not applicable
PARTITION COEFFICIENT:	Data not available
AUTO IGNITION TEMPERATURE	Data not applicable
DECOMPOSITION TEMPERATURE	Data not available
VISCOSITY	Data not available
EXPLOSIVE PROPERTIES	Data not applicable

**Section 10: Stability and Reactivity**

Reactivity	Not reactive
Chemical Stability	Stable
Possibility of Hazardous Reactions	Will not occur
Conditions to Avoid	None
Incompatibility (Materials to Avoid)	Any material that reacts violently with water
Hazardous Decomposition Products	None

## Section 11: Toxicological Information

GHS Required Criteria	Toxicity Criteria	Toxicity Information	Comments	Chemical Constituent
Acute Toxicity	ATE LD50 (Oral/Rat):	Data not available	Not applicable	Product
	ATE LD50 (Dermal/Rabbit):	Data not available	Not applicable	Product
	ATE LC50 (Inhalation/Rat):	Data not available	Not applicable	Product
Skin Corrosion/Irritation	No irritation observed in tests involving rabbits.			Stabilizers
Serious Eye Damage / Eye Irritation	In rabbit test, transient mild conjunctival hyperemia, and optical irregularities of the corneal epithelium were seen, and moderate irritation is indicated.		Category 2A	Stabilizers
Respiratory or Skin Sensitization		Data not available		
Germ Cell Mutagenicity		Data not available		
Carcinogenicity	NTP	Not Listed		
	IARC	Not Listed		
	OSHA	Not Listed		
Reproductive Toxicity		Data not available		
STOT -- Single Exposure		Data not available		
STOT -- Repeated Exposure		Data not available		
Aspiration Hazard		Data not available		

STOT = Specific Target Organ Toxicity

ATE: Acute Toxicity Estimate calculation per OSHA 1910.1200

## Section 12: Ecological Information

		Chemical Constituent
Toxicity	48-hour LC50 = 70.2 mg/L <i>Acartia tonsa</i> (Dana)	Product
	48-hour EC50 > 20 mg/L <i>Skeletonema costatum</i> (Marine Algae)	Product
	96-hour LC50 > 10 mg/L <i>Cyprinodon variegatus</i> (Sheepshead minnow)	Product
	48-hour EC50 = 19mg/L of Crustacea ( <i>Daphnia magna</i> )	Stabilizers
Persistence and degradability	8% biodegradation after 28 days	Product
Bioaccumulative potential	Data not available	
Mobility in soil	Data not available	
PBT and vPvB assessment	PBT/vPvB assessment not available as chemical assessment not required/not conducted	
Other adverse effects	Data not available	

\*\*Note: Data for product is derived from OECD reports from the below analysis:

- Fish – Determination of the acute lethal toxicity (96-h LC) of AlphaZyme D400 PB to juvenile sheepshead minnow
- *Acartia* – Determination of acute lethal toxicity (48-h LC50) of AlphaZyme D400 PB to *Acartia tonsa* (Dana)
- Biodegradable – An Assessment of the aerobic biodegradability in seawater of AlphaZyme D400 PB
- Skelet – An assessment of growth inhibition (72-h EC50) in the marine alga *Skeletonema costatum* by AlphaZyme D400 PB

## Section 13: Disposal Considerations

**Waste from residues/unused products:** Follow the waste disposal requirements of your country, state, or local authorities.

**Contaminated packaging:** Contaminated packaging material should be disposed of as stated above for residues and unused product.

**Rinsate:** Do not dispose of rinse water containing product in a sanitary sewer system or stormwater drainage system.

## Section 14: Transport Information

<u>DOT TRANSPORT</u>		Not Regulated
<u>SEA TRANSPORT</u>	IMDG	Not Regulated
<u>AIR TRANSPORT</u>	IATA/ICAO	Not Regulated

*AlphaZyme D400 is not classified as a hazardous material and can be shipped without restriction regardless of shipment method.*

## Section 15: Regulatory Information

### TOXIC SUBSTANCES CONTROL ACT (TSCA) STATUS:

This product is in compliance with rules, regulations, and orders of TSCA. All components are either listed on the TSCA inventory or are considered exempt.

### SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986 (SARA) TITLE III SECTION 313 SUPPLIER NOTIFICATION:

This regulation requires submission of annual reports of toxic chemical(s) that appear in section 313 of the Emergency Planning and Community Right To Know Act of 1986 and 40 CFR 372. This information must be included in all SDS's that are copied and distributed for the material.

The Section 313 toxic chemicals contained in this product are: None

### CALIFORNIA PROPOSITION 65:

This regulation requires a warning for California Proposition 65 chemical(s) under the statute.

The California proposition 65 chemical(s) contained in this product are: None

### STATE RIGHT-TO-KNOW TOXIC SUBSTANCE OR HAZARDOUS SUBSTANCE LIST:

Massachusetts's hazardous substance(s):	Not listed
Pennsylvania hazardous substance code(s):	Not listed
New Jersey:	Not listed

### CANADA:

WHMIS-2015: This SDS is in compliance with WHMIS 2015 (HPR / new HPA).

### EUROPEAN UNION:

This product has been reviewed for compliance with the following European Community Directives: REACH 1907/2006; Regulation (EC) No 1272/2008 on classification, labeling, and packaging (CLP) of substances and mixtures.

## Section 16: Other Information

Initial issue date:	April 12, 2017
Final revision date:	May 05, 2017
Revision Number:	0
Revision explanation:	Initial version
Information Sources:	RTECS, ECHA, REACH, OSHA 29CFR 1910.1200

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