MATERIAL SAFETY DATA SHEET

Apollo Separation Technologies Inc.
1111, Goodnight Trail, Houston, Texas 77060.

Phone: (281) 233-9600
www.ApolloGreenZyme.com

Product Trade Name: Apollo GreenZyme®

Substance Identification: Biological Enzymes (GreenZyme® DNA proteins, CAS: N/A): 8%;
Sodium octadecanoate (CSA #822-16-2): 1%;
Magnesium Sulfate (CAS #7487-88-9): 0.01%;
Water: (CAS # 7732-18-5): 90.99%

Physical Data:
Description: Semi-clear yellow with a slight fermentation odor.
Evaporation rate: < 1 (butyl / acetate = 1)
PH: 3.5 - 5 (in concentrated form); Injection at dilution form, pH: 6 to 7.
Boiling point: 212°F. or 100°C. Specific gravity: 1
Solubility in water: Complete, 100% dispersible.
Vapor pressure: 17.5 mmHg - 20°C.

Health Effects and First Aid:
Inhalation: Non-hazardous.
Skin contact: Thoroughly rinse solution off the skin with soap and water.
If an itching sensation or redness occurs, contact a physician.
Eye contact: May cause minor irritation, flush eyes with water. If a burning or itching sensation develops, contact a physician.
Ingestion: Relatively harmless. If swallowed, drink one or two glasses of water. If intestinal symptoms occur, contact a physician.

Reactivity Data:
Reactivity: Stable under normal conditions.
Incompatibilities: Any materials that react violently with water.
Hazardous polymerization: Will not occur.

Fire and Explosion Data: Primarily water-based solution, non-fire hazardous, non-explosive.

Safeguard Measures:
Ventilation: Provide adequate ventilation.
Eye protection: Avoid contact with eyes. Contact lenses are not recommended.
Protective clothing: Avoid skin contact with solution for long periods of time.
Respiratory protection: Not applicable.

Spill of Leak Information: Wash and flush down the area of the spill with liberal amount water.

Transportation Data:
DOT Proper shipping name: None.
DOT I.D. Number: N/A.
DOT Hazard class: N/A.
DOT Label / Placard: None (0 / 0 / 0 / 0)

General Use Area:
For Enhanced Oil Recovery (i.e. EOR) and environmental clean-up uses.

Storage and Disposal:
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. Shell life: over 3 years, use within 3 years.

In process applications, GreenZyme® can be heated up to 100°C, higher if necessary under pressure, e.g. greater than 400°C in steam-huff-puff process.
Disposal: If necessary, dispose of any unused dilute and/or concentrated solution in non-hazardous waste facility.

Harmony system code: 3507.90.0000; China Import Code: 3507 9090; Made in USA.