JENEIL BIOSURFACTANT CO., LLC
400 N. DEKORA WOODS BLVD.
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DATE: 03-08-2014

MATERIAL SAFETY DATA SHEET

ZONIX

SECTION 1. CHEMICAL IDENTIFICATION
PRODUCT NAME: ZONIX

MANUFACTURER'S NAME: JENEIL BIOSURFACTANT CO., LLC
400 N. DEKORA WOODS BLVD.
SAUKVILLE, WI 53080

SECTION 2. HAZARDS IDENTIFICATION
GHS CLASSIFICATION
SKIN IRRITATION (CATEGORY 3)

GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM

SIGNAL WORD:
WARNING

HAZARD STATEMENT(S)
H316 CAUSES MILD SKIN IRRITATION.

PRECAUTIONARY STATEMENT(S)
NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS
CHEMICAL NAME: BIOSURFACTANT - RHAMNOLIPIDS
CHEMICAL FAMILY: MICROBIAL ORIGIN
FORMULA: C_{26}H_{44}O_{9}, C_{32}H_{58}O_{13}
CAS NUMBER: 147858-26-2

SECTION 4. FIRST-AID MEASURES
IN CASE OF CONTACT
IMMEDIATELY WASH SKIN WITH SOAP AND WATER.

CONTAMINATION OF THE EYES
TREAT WITH IMMEDIATE AND PROLONGED IRRIGATION OF COPIOUS AMOUNTS OF WATER.

IF INHALED
REMOVE TO FRESH AIR.

IF SWALLOWED
WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.
SECTION 5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA
WATER, CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.

SECTION 6. ACCIDENTAL RELEASE MEASURES
ABSORB ON SAND OR ON A COMMERCIALy AVAILABLE CLAY ADSORBENT AND PLACE IN CLOSED CONTAINERS FOR DISPOSAL.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. HANDLING AND STORAGE
KEEP PRODUCT AWAY FROM HEAT TO MAINTAIN QUALITY. STORE IN A COOL, DRY PLACE.
MINIMIZE PRODUCT EXPOSURE TO DIRECT SUNLIGHT IN HOT CLIMATES.

OTHER PRECAUTIONS: STORE PRODUCT IN AREA BETWEEN 8° - 50° C.
STORE IN TIGHTLY SEALED CONTAINERS.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION
ALTHOUGH ZONIX IS NOT EXPECTED TO POSE ANY SPECIFIC HEALTH HAZARD, THE FOLLOWING PRECAUTIONS ARE RECOMMENDED DUE TO POSSIBLE IRRITATION FROM THE BIOLOGICAL DERIVATIVES CONTAINED IN THE PRODUCT. INDIVIDUAL DERMAL AND RESPIRATORY SENSITIVITIES TO ZONIX WILL VARY.

RESPIRATORY PROTECTION: NONE REQUIRED.

VENTILATION: HANDLE PRODUCT IN NORMAL, WELL VENTILATED AREA.

PERSONAL PROTECTIVE EQUIPMENT: TAKE PROTECTIVE MEASURES TO AVOID EYE AND SKIN CONTACT.

HYGIENIC PRACTICES:
AVOID PROLONGED CONTACT WITH SKIN, BREATHING MIST, AND DO NOT TAKE INTERNALLY. WASH THOROUGHLY WITH SOAP AND WATER AFTER SKIN CONTACT. SKIN CREAM MAY BE USED TO REDUCE POSSIBLE IRRITATION. IF TAKEN INTERNALLY, DO NOT INDUCE VOMITING. RINSE MOUTH WITH WATER. DRINK ONE GLASS OF WATER. CONTACT PHYSICIAN IMMEDIATELY.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
APPEARANCE: LIGHT AMBER SOLUTION
SPECIFIC GRAVITY @ 25° C: 1.02 - 1.07
ZONIX

BOILING POINT: 100°C
VAPOR PRESSURE @ 20°C: NOT ESTABLISHED
VAPOR DENSITY: NOT ESTABLISHED
SOLUBILITY IN WATER: SOLUBLE AT NEUTRAL PH
PERCENT VOLATILE: NOT VOLATILE
EVAPORATION RATE (ETHER=1): NOT ESTABLISHED

SECTION 10. STABILITY AND REACTIVITY
STABILITY: STABLE
CONDITIONS TO AVOID: EXCESSIVE HEAT OR FREEZING
INCOMPATIBLE WITH: AVOID STRONG OXIDIZING AGENTS
HAZARDOUS DECOMPOSITION PRODUCTS: INSIGNIFICANT. MOSTLY STEAM, TRACE AMOUNTS OF CO₂ AND CO. PRODUCT IS NOT AN OXYGEN DONOR.

SECTION 11. TOXICOLOGICAL INFORMATION
THRESHOLD LIMIT VALUE (TLV): 25 PPM TWA, SKIN
PERMISSIBLE EXPOSURE LIMIT (PEL): 25 PPM TWA, SKIN
SARA TITLE III: NOT LISTED AS REPORTABLE SUBSTANCE
ROUTE OF EXPOSURE: EYE, SKIN CONTACT, INHALATION, INGESTION

HEALTH HAZARD FROM ACUTE EXPOSURE: IN 2 - 5% SOLUTION, CAN BE HARMFUL IF SWALLOWED. INGESTION CAN CAUSE VOMITING, HEADACHE AND OTHER HARMFUL PROBLEMS. CAN BE IRRITATING TO SKIN AND EYES. SKIN CONTACT CAN CAUSE SLIGHT REDNESS. EYE CONTACT CAN CAUSE MODERATE TO HIGH IRRITATION. INHALATION CAN CAUSE NOSE, THROAT, AND RESPIRATORY TRACT IRRITATION.

HEALTH HAZARD FROM CHRONIC EXPOSURE: PROLONGED OR REPEATED EXPOSURE CAN CAUSE DRYING, DEFATTING, AND DERMATITIS OF SKIN. ZONIX IS NOT LISTED AS A CARCINOGEN BY NTP, OSHA, OR IARC.

SECTION 12. ECOLOGICAL INFORMATION
DATA NOT YET AVAILABLE.

SECTION 13. DISPOSAL CONSIDERATIONS
OBSERVE ALL FEDERAL, STATE, PROVINCIAL, AND LOCAL ENVIRONMENTAL REGULATIONS.
SECTION 14. TRANSPORT INFORMATION
NOT REGULATED

SECTION 15. REGULATORY INFORMATION
NTP, OSHA, AND IARC DO NOT LIST THIS PRODUCT AS CARCINOGENIC TO HUMANS.

UNUSED PRODUCT IS NOT LISTED BY EPA AS HAZARDOUS WASTE (40CR PART 261).

ZONIX IS NOT LISTED ON CALIFORNIA’S PROP. 65 TOXIC SUBSTANCE LIST.

ZONIX IS LISTED ON EPA’S CHEMICAL INVENTORY (PL94-469); HOWEVER, IT IS NOT ON EPA’S CORR (CHEMICALS OF REGULATORY RULES) LIST, WHICH CONTAINS THOSE MATERIALS WHICH POSE A HEALTH OR ENVIRONMENTAL RISK.

SECTION 16. OTHER INFORMATION
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT, BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. JENEIL BIOSURFACTANT CO., LLC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.