WUXIZYME RCL 55

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SECTION NUMBER AND HEADING

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION
2. COMPOSITION/INFORMATION ON INGREDIENTS
3. HAZARDS IDENTIFICATION
4. FIRST AID MEASURES
5. FIRE FIGHTING MEASURES
6. ACCIDENTAL RELEASE MEASURES
7. HANDLING AND STORAGE
8. EXPOSURE CONTROLS/PERSONAL PROTECTION
9. PHYSICAL AND CHEMICAL PROPERTIES
10. STABILITY AND REACTIVITY
11. TOXICOLOGICAL INFORMATION
12. DISPOSAL CONSIDERATIONS
13. TRANSPORT INFORMATION
14. REGULATORY INFORMATION
15. OTHER INFORMATION

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

1.1 CHEMICAL PRODUCT WUXIZYME RCL 55
1.2 PREPARED BY ENVIRONMENTAL & REGULATORY AFFAIRS DEPARTMENT
1.3 PREPARATION DATE 3/20/2007
1.4 CHEMICAL FORMULA N.AV
1.5 MOLECULAR WEIGHT N.AV
1.6 CHEMICAL FAMILY ENZYME PROTEIN
1.7 MATERIAL USE REFER TO TECHNICAL LITERATURE

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>CAS #</th>
<th>CHEMICAL NAME</th>
<th>%</th>
<th>EINECS #</th>
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</table>
ICI Pakistan Limited
Chemical Business
2.1 HAZARD SYMBOLS          NONE LISTED
2.2 RISK PHRASES            NONE LISTED

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

APPEARANCE:                          NOT AVAILABLE
CAUTION! MAY CAUSE SKIN IRRITATION. MAY CAUSE EYE IRRITATION. THE TOXICOLOGICAL PROPERTIES OF THIS MATERIAL HAVE NOT BEEN FULLY INVESTIGATED.

TARGET ORGANS:                      NONE.

POTENTIAL HEALTH EFFECTS

EYE                                    MAY CAUSE EYE IRRITATION
SKIN                                   MAY CAUSE SKIN IRRITATION
INGESTION                             THE TOXICOLOGICAL PROPERTIES OF THIS SUBSTANCE HAVE NOT BEEN FULLY INVESTIGATED. THIS IS A HUMAN SOURCE

INHALATION                            THE TOXICOLOGICAL PROPERTIES OF THIS SUBSTANCE HAVE NOT BEEN FULLY INVESTIGATED.

CHRONIC                                NO INFORMATION FOUND.

4. FIRST AID MEASURES

4.1 EYES                              FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES, OCCASIONALLY LIFTING THE UPPER AND LOWER EYELIDS. GET MEDICAL AID.

4.2 SKIN                               GET MEDICAL AID. FLUSH SKIN WITH PLENTY OF SOAP AND WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

4.3 INGESTION                         IF VICTIM IS CONSCIOUS AND ALERT, GIVE 2-4 CUPFULS OF MILK OR WATER. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. GET MEDICAL AID.

4.4 INHALATION                        REMOVE FROM EXPOSURE TO FRESH AIR IMMEDIATELY. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. IF
5. FIRE FIGHTING MEASURES

GENERAL INFORMATION
AS IN ANY FIRE, WEAR A SELF-CONTAINED BREATHING APPARATUS IN PRESSURE-DEMAND, MSHA/NIOSH (APPROVED OR EQUIVALENT), AND FULL PROTECTIVE GEAR

5.1 EXTINGUISHING MEDIA
FOR SMALL FIRES, USE WATER SPRAY, DRY CHEMICAL, CARBON DIOXIDE OR CHEMICAL FOAM

5.2 AUTOIGNITION TEMPERATURES
NOT AVAILABLE

5.3 FLASH POINT
NOT AVAILABLE

5.4 EXPLOSION LIMITS, LOWER
NOT AVAILABLE

5.5 EXPLOSION LIMITS, UPPER
NOT AVAILABLE

5.6 NFPA RATING
(ESTIMATED)

5.7 HEALTH
1; FLAMMABILITY: 0; INSTABILITY: 0

6. ACCIDENTAL RELEASE MEASURES

6.1 GENERAL INFORMATION
USE PROPER PERSONAL PROTECTIVE EQUIPMENT AS INDICATED IN SECTION 8

6.2 SPILLS/LEAKS
VACUUM OR SWEEP UP MATERIAL AND PLACE INTO A SUITABLE DISPOSAL CONTAINER. AVOID GENERATING DUSTY CONDITIONS

7. HANDLING AND STORAGE

7.1 HANDLING
USE WITH ADEQUATE VENTILATION. AVOID CONTACT WITH SKIN AND EYES. AVOID INGESTION AND INHALATION.

7.2 STORAGE
STORE IN A COOL, DRY PLACE.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 ENGINEERING CONTROLS
USE ADEQUATE VENTILATION TO KEEP AIRBORNE CONCENTRATIONS LOW.

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA – FINAL ELS</th>
</tr>
</thead>
<tbody>
<tr>
<td>WUXIZYME RCL 55</td>
<td>NONELISTED</td>
<td>NONE LISTED</td>
<td>NONE LISTED</td>
</tr>
</tbody>
</table>

8.2 OSHA VACATED PELS

8.3 WUXIZYME RCL 55
NO OSHA VACATED PELS ARE LISTED FOR THIS CHEMICAL.

PERSONAL PROTECTIVE EQUIPMENT

EYES
WEAR APPROPRIATE PROTECTIVE EYEGLASSES OR CHEMICAL SAFETY GOGGLES AS DESCRIBED BY OSHA'S EYE AND FACE PROTECTION REGULATIONS IN 29 CFR 1910.133 OR EUROPEAN STANDARD EN166

SKIN
WEAR APPROPRIATE GLOVES TO PREVENT SKIN EXPOSURE

CLOTHING
WEAR APPROPRIATE PROTECTIVE CLOTHING TO PREVENT SKIN EXPOSURE

RESPIRATORS
FOLLOW THE OSHA RESPIRATOR REGULATIONS FOUND IN 29 CFR 1910.134 OR EUROPEAN STANDARD EN 149. ALWAYS USE A NIOSH OR EUROPEAN STANDARD EN 149 APPROVED RESPIRATOR WHEN NECESSARY.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 PHYSICAL STATE
LIQUID

9.2 COLOR
COFFEE COLOR LIQUID

9.3 ODOR
NO PECULIAR ODOR

9.4 PH
NOT AVAILABLE

9.5 VAPOR PRESSURE
NOT APPLICABLE

9.6 VAPOR DENSITY
NOT APPLICABLE

9.7 EVAPORATION RATE
NOT APPLICABLE

9.8 VISCOSITY
NOT APPLICABLE

9.9 Boiling Point
NOT APPLICABLE

9.10 Freezing/Melting Point
NOT APPLICABLE
9.11 DECOMPOSITION TEMPERATURE  NOT APPLICABLE

9.12 SOLUBILITY IN WATER   SOLUBLE IN ANY RATE

9.13 SPECIFIC GRAVITY/DENSITY  1.2G/ML

9.14 MOLECULAR FORMULA   PROTEIN

9.15 MOLECULAR WEIGHT   NOT APPLICABLE

10.  STABILITY AND REACTIVITY

10.1 CHEMICAL STABILITY  STABLE UNDER NORMAL TEMPERATURES AND PRESSURES

10.2 CONDITIONS TO AVOID   NONE REPORTED

10.3 INCOMPATIBILITIES WITH OTHER MATERIALS   NONE REPORTED

10.4 HAZARDOUS DECOMPOSITION PRODUCTS   NONE

10.5 HAZARDOUS POLYMERIZATION  HAS NOT BEEN REPORTED

11.  TOXICOLOGICAL INFORMATION

RTECS#:  
n CAS# 9012-54-8: BU7432500

LD50/LC50:  
n CAS# 9012-54-8: ORAL, MOUSE: LD50 = >15 GM/KG; ORAL, RAT: LD50 = >7500 MG/KG.

CARCINOGENICITY: WUXIZYME RCL 55  
*p NOT LISTED BY ACGIH, IARC, NIOSH, NTP, OR OSHA.

EPIDEMIOLOGY  NO DATA AVAILABLE
TERATOGENICITY  NO DATA AVAILABLE
REPRODUCTIVE EFFECTS  NO DATA AVAILABLE
NEUROTOXICITY  NO DATA AVAILABLE
MUTAGENICITY  NO DATA AVAILABLE
OTHER STUDIES  NO DATA AVAILABLE

12.  DISPOSAL CONSIDERATIONS

CHEMICAL WASTE GENERATORS MUST DETERMINE WHETHER A DISCARDED CHEMICAL IS CLASSIFIED AS A HAZARDOUS WASTE. US EPA GUIDELINES FOR THE CLASSIFICATION DETERMINATION ARE
LISTED IN 40CFR PARTS 261.3. ADDITIONALLY, WASTE GENERATORS MUST CONSULT STATE AND LOCAL HAZARDOUS WASTE REGULATIONS TO ENSURE COMPLETE AND ACCURATE CLASSIFICATION.

RCRA P-SERIES: NONE LISTED
RCRA U-SERIES: NONE LISTED

13. TRANSPORT INFORMATION

US DOT
n NO INFORMATION AVAILABLE
CANADIAN TDG
n NO INFORMATION AVAILABLE.

14. REGULATORY INFORMATION

US FEDERAL TSCA
n CAS# 9012-54-8 IS LISTED ON THE TSCA INVENTORY.

HEALTH & SAFETY REPORTING LIST
n NONE OF THE CHEMICALS ARE ON THE HEALTH & SAFETY REPORTING LIST.

CHEMICAL TEST RULES
n NONE OF THE CHEMICALS IN THIS PRODUCT ARE UNDER A CHEMICAL TEST RULE. SECTION 12B.

TSCA SIGNIFICANT NEW USE RULE.
n NONE OF THE CHEMICALS IN THIS MATERIAL HAVE A SNUR UNDER TSCA.

SARA CERCLA HAZARDOUS SUBSTANCES AND CORRESPONDING RQS
n NONE OF THE CHEMICALS IN THIS MATERIAL HAVE AN RQ. SARA.

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES.
n NONE OF THE CHEMICALS IN THIS PRODUCT HAVE A TPQ. SECTION 313.

n NO CHEMICALS ARE REPORTABLE UNDER SECTION 313. CLEAN AIR ACT:

n THIS MATERIAL DOES NOT CONTAIN ANY HAZARDOUS AIR POLLUTANTS.

n THIS MATERIAL DOES NOT CONTAIN ANY CLASS 1 OZONE DEPLETORS.

n THIS MATERIAL DOES NOT CONTAIN ANY CLASS 2 OZONE DEPLETORS.

CLEAN WATER ACT:

n NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS HAZARDOUS SUBSTANCES UNDER THE CWA.

n NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS PRIORITY POLLUTANTS UNDER THE CWA.

n NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED AS TOXIC POLLUTANTS UNDER THE CWA.

OSHA:

n NONE OF THE CHEMICALS IN THIS PRODUCT ARE CONSIDERED HIGHLY HAZARDOUS BY OSHA.

STATE
WUXIZYME RCL 55 IS NOT PRESENT ON STATE LISTS FROM CA, PA, MN, MA, FL, OR NJ. CALIFORNIA NO SIGNIFICANT RISK LEVEL: NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED.

EUROPEAN/INTERNATIONAL REGULATIONS.
EUROPEAN LABELING IN ACCORDANCE WITH EC DIRECTIVES.

- HAZARD SYMBOLS: NOT AVAILABLE.
- RISK PHRASES.
- SAFETY PHRASES.
- S 24/25 AVOID CONTACT WITH SKIN AND EYES. WGK (WATER DANGER/PROTECTION).
- CAS#9012-54-8: 0.

UNITED KINGDOM OCCUPATIONAL EXPOSURE LIMITS. UNITED KINGDOM MAXIMUM EXPOSURE LIMITS.

CANADA
- NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED ON THE DSL/NDSL LIST.
- WHMIS: NOT AVAILABLE.
- CAS# 9012-54-8 IS NOT LISTED ON CANADA'S INGREDIENT DISCLOSURE LIST.

15. OTHER INFORMATION

MSDS CREATION DATE: FEB 2016

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