

CUSTOMER: C0212171
BATCH #: 040430003
ZONE #: 070
BARCODE #: 9611019008565111198319
PRODUCT NAME: DR ZYME

ORDER #: 04831
STICKER #: 040430026

MATERIAL SAFETY DATA SHEET: DR ZYME

Page: 1

(000000-000000- -0316)

DATE OF ISSUE 3/18/2002	SUPERSEDES 8/09/1999
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SECTION I - GENERAL INFORMATION

Chemical Name & Synonyms
N/A

Trade Name & Synonyms
DR ZYME

Chemical Family:
AQUEOUS BACTERIAL SUSPENSION

Formula Mixture --> X

Manufacturer's Name:
CHEMSEARCH DIV. OF NCH CORP.

Address:
BOX 152170
IRVING, TX 75015

Prepared By: L Boynton/Chemist

Product Code Number: 0316

Emergency Phone Number: 800-424-9300

SECTION II - HAZARDOUS INGREDIENTS

THE HAZARDS PRESENTED BELOW ARE THOSE OF THE INDIVIDUAL COMPONENTS

Chemical Name (Ingredients)	Hazard	TLV 400 PPM 1.	PEL 400 PPM 2.	STEL N/E	CAS #
ISOPROPYL ALCOHOL	IRRITANT	N/E 1.	N/E 2.	N/E	67-63-0
BACTERIAL SPORES	IRRITANT	N/E 1.	N/E 2.	N/E	68038-70-0
SUBTILISIN	SENSITIZER	N/E 1.	N/E 2.	0.00006\$ 1	9014-01-1
\$ AS MG/M3					
SODIUM CHLORIDE	IRRITANT	N/E 1.	N/E 2.	N/E	7647-14-5

SECTION IIa - NON-HAZARDOUS INGREDIENTS

(NON-HAZARDOUS INGREDIENT NAMES AND CAS NUMBERS ARE PROTECTED UNDER NJ TRADE)

Secret Registry #: 409363-5007P

SECTION III - PHYSICAL DATA

Boiling Point (F): 212°

Specific Gravity (H2O=1): 1.0344

Vapor Pressure (MM HG): 16.4

Color: MILKY-WHITE

Vapor Density (Air=1): 0.63

Odor: CHERRY-VANILLA

PH @ 100% : 9.1

Clarity: OPAQUE

% Volatile by Volume: 95

Evaporation Rate (BU A/C=1): 0.6

H2O Solubility: COMPLETE

Viscosity: NON-VISCOUS

SECTION IV - FIRE AND EXPLOSION HAZARD

Flash Point >200°F / SETAFLASH

Flammable Limits N/A

LEL N/A

UEL N/A

Extinguishing Media
X --Foam X --Alcohol Foam X --CO2 X --Dry Chemical X --Water Spray --Other

Special Fire Fighting Procedures:
FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. EXTINGUISHING MEDIA SHOULD BE CHOSEN BASED ON THE NATURE OF THE SURROUNDING FIRE.

Unusual Fire and Explosion Hazards:
NONE KNOWN.

Aerosol Level (NFPA 30B): N/A

NFPA 704 Hazard Rating (0=Insignificant 1=Slight 2=Moderate 3=High 4=Extreme)
2 --Health 1 --Flammability 0 --Instability --Special

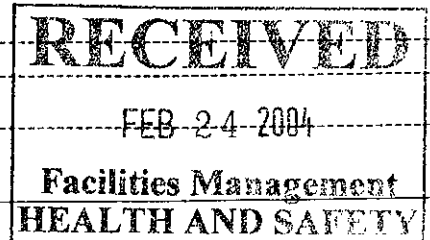
SECTION V - HEALTH HAZARD DATA

Threshold Limit Value:
400 PPM AS ISOPROPYL ALCOHOL 1.

Effects of Overexposure:

-Acute (Short Term Exposure)

EYE CONTACT: CAUSES IRRITATION SEEN AS REDNESS AND TEARING.
SKIN CONTACT: MAY CAUSE IRRITATION SEEN AS ITCHING AND REDNESS. WHILE THE BACTERIA IN THIS PRODUCT ARE NON-PATHOGENIC, CONTACT WITH OPEN SORES OR CUTS CAN CAUSE OPPORTUNISTIC INFECTIONS IN IMMUNO-SUPPRESSED INDIVIDUALS.
INHALATION: CAUSES RESPIRATORY IRRITATION SEEN AS COUGHING AND SNEEZING. MAY CAUSE HEADACHES, DIZZINESS AND ALLERGIC REACTIONS IN SENSITIVE INDIVIDUALS. SYMPTOMS INCLUDE SHORTNESS OF BREATH, WHEEZING AND COUGHING.



SECTION V - HEALTH HAZARD DATA (Continued)

INGESTION: CAUSES IRRITATION WITH POSSIBLE NAUSEA, VOMITING AND DIARRHEA. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO BRONCHIOPNEUMONIA OR PULMONARY EDEMA.

-Chronic (Long Term Exposure)

MAY CAUSE RESPIRATORY SENSITIZATION IN SOME INDIVIDUALS. THE ENZYMES RELEASE BRADYKININ AND HISTAMINE, LEADING TO BRONCHOSPASM. RELEASE OF "SLOW REACTING SUBSTANCE" MAY BE THE CAUSE OF DELAYED BRONCHOSPASM. CHRONIC OVEREXPOSURE BY INGESTING SODIUM CHLORIDE CAUSES ELEVATED BLOOD PRESSURE. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA AND DERMATITIS. TARGET ORGANS: CENTRAL NERVOUS SYSTEM, PULMONARY SYSTEM AND LUNGS.

Primary Routes of Entry: X <--Inhalation <--Ingestion <--Absorption

Emergency and First Aid Procedures:

-Inhalation:

REMOVE FROM THE AREA TO FRESH AIR. IF NOT BREATHING, CLEAR THE AIRWAY AND START MOUTH TO MOUTH ARTIFICIAL RESPIRATION. GET IMMEDIATE MEDICAL ATTENTION.

-Eye Contact:

RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING WITH PLENTY OF WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Skin Contact:

WASH AFFECTED AREAS WITH PLENTY OF SOAP AND WATER FOR SEVERAL MINUTES. SEEK MEDICAL ATTENTION IF IRRITATION DEVELOPS.

-Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. SEEK MEDICAL ATTENTION IF DISCOMFORT OCCURS.

-Notes to Physician:

THE BACTERIA IN THIS PRODUCT, BACILLUS SUBTILLUS, IS NOT NORMALLY PATHOGENIC; BUT AS WITH ANY BACTERIA, OPPORTUNISTIC INFECTIONS IN IMMUNOCOMPROMISED INDIVIDUALS CAN OCCUR FOLLOWING EXPOSURE TO BROKEN SKIN OR BY INHALATION OF THE MIST.

SECTION VI - TOXICITY INFORMATION

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:
 IARC--> No NTP--> No OSHA--> No ACGIH--> No OTHER--> No

ISOPROPYL ALCOHOL

ORL-HMN LDLo: 3570 MG/KG 3.
 ORL-RAT LD50: 5045 MG/KG 3.
 IHL-RAT LC50: 16000 PPM/8H 3.
 SKN-RBT LD50: 12800 MG/KG 3.
 SKN-RBT-SDT: 500 MG MILD 3.
 EYE-RBT-SDT: 10 MG MODERATE 3.

BACTERIAL SPORES

NO TOXICITY DATA AVAILABLE

SUBTILISIN

ORL-RAT LD50: 3700 MG/KG 3.
 EYE-RBT-SDT: 3 MG MODERATE 3.

SODIUM CHLORIDE

ORL-HMN TDLo: 12,357 MG/KG/23D-C 3.
 ORL-RAT LD50: 3 GM/KG 3.
 IHL-RAT LC50: >42 GM/M3/1H 3.
 SKN-RBT LD50: >10 GM/KG 3.
 SKN-RBT-SDT: 500 MG/24H MILD 3.
 EYE-RBT-SDT: 100 MG/24H MODERATE 3.

SECTION VII - REACTIVITY DATA

Stability: X <--Stable <--Unstable

Conditions to Avoid:
 AVOID EXTREME TEMPERATURES.

Incompatibility (Materials to Avoid):

STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED HYDROGEN PEROXIDE; ALDEHYDES, ALKANOLAMINES, AMINES, BROMINE TRIFLUORIDE, CAUSTICS, CHLORINATED COMPOUNDS, DICHLOROMALEIC ANHYDRIDE WITH UREA AND LITHIUM AND DISINFECTANTS.

Hazardous Decomposition Products:

OXIDES OF CARBON AND NITROGEN; FUMES OF CHLORINE AND SODIUM OXIDE.

Hazardous Polymerization:

<--May Occur X <--Will Not Occur

Conditions to Avoid:

N/A

SECTION VIII - SPILL OR LEAK PROCEDURES

Steps to be Taken if Material is Released or Spilled:

WEAR APPROPRIATE PROTECTIVE CLOTHING. USE CARE AS SPILLS MAY BE SLIPPERY. VENTILATE THE AREA. DIKE AND CONTAIN SPILL. ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. PREVENT PRODUCT FROM CONTAMINATING SOIL OR FROM ENTERING SEWAGE AND DRAINAGE SYSTEMS AND BODIES OF WATER. FLUSH AREA WITH WATER.

Waste Disposal Method(s):

DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.

Neutralizing Agent:

N/A

SECTION IX - SPECIAL PROTECTION INFORMATION

Required Ventilation:

LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE MISTS.

Respiratory Protection:

A NIOSH/MSHA APPROVED RESPIRATOR FOR EXPOSURE ABOVE THE ACGIH TLV OR OSHA PEL OR WHERE MISTING EXISTS.

Glove Protection:

SECTION IX - SPECIAL PROTECTION INFORMATION (Continued)

NEOPRENE OR NITRILE RUBBER GLOVES IF REPEATED OR PROLONGED SKIN CONTACT IS LIKELY.

Eye Protection:

SAFETY GLASSES WITH SIDE SHIELDS IF THE METHOD OF USE PRESENTS THE LIKELIHOOD OF EYE CONTACT.

Other Protection:

N/A

SECTION X - STORAGE AND HANDLING INFORMATION

Storage Temperature: Indoors--> X Outdoors--> Heated--> Refrigerated-->
 Minimum Temperature: 32°F Maximum Temperature: 104°F

Precautions to be Taken in Handling and Storing:

ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT ALLOW PRODUCT TO FREEZE.

Other Precautions:

DO NOT USE IN CONJUNCTION WITH BLEACH OR OTHER HOUSEHOLD DISINFECTANTS AS THEY MAY INACTIVATE THIS PRODUCT. KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. FOLLOW THE LABEL DIRECTIONS.

SECTION XI - REGULATORY INFORMATION

Chemical Name

None

CAS Number**Upper & Limit**

Those ingredients listed above are subject to the reporting requirements of 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Please call 1-800-527-9919 for additional information if you are a California customer.
 This MSDS is not intended for users in the state of California.

SECTION XII - REFERENCES

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES, ACGIH, 2001.
2. OSHA PEL.
3. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFODisc, 2001.

ALL COMPONENTS IN THIS PRODUCT CAN BE FOUND IN THE CURRENT TSCA INVENTORY.

CORR:CORROSIVE CARC:CARCINOGENIC, TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED, IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE,
 TCC:TAGLIABUE CLOSED CUP, LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, COC:CLEVELAND OPEN CUP, PMCC:PENSKY-MARTIN CLOSED CUP,
 FOR THE RESEARCH ON CANCER, NTP:NATIONAL TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, IARC:INTERNATIONAL AGENCY
 GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV:THRESHOLD LIMIT VALUE, PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM EXPOSURE LIMIT, MLD:MILD,
 MOD:MODERATE, SEV:SEVERE, MUT:MITAGENIC, ASPHYX:ASPHYXIAN, PMS:PARTICULATES (INSOLUBLE) NOT OTHERWISE SPECIFIED, SDT:STANDARD DRAIZE TEST,
 ORL:ORAL, IHL:INHALATION, HMN:HUMAN

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED ACCURATE IN LIGHT OF CURRENT FORMULATION. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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