

MATERIAL SAFETY DATA SHEET

TN22

AMRESKO INC.
30175 SOLON INDUSTRIAL PARKWAY
SOLON, OHIO 44139

EMERGENCY TELEPHONE NUMBER:
CHEMTREC (800) 424-9300

TELEPHONE NUMBER FOR INFORMATION:
(800) 448-4442 OR (440) 349-1199

DATE PREPARED: 2-13-98

REVIEWED: 10-3-05

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

CODE#: 0558
NAME: NEOMYCIN SULFATE
CAS#: 1405-10-3

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

MF: C23H46N6O13

EC NO: 215-773-1

SYNONYMS

BIOSOL VETERINARY * BYKOMYCIN * FRADIOMYCIN SULFATE * LIDAMYCIN CREME
* MYCIFRADIN-N * MYCAIFRADIN SULFATE * MYCIGIENT * NEOBIOTIC *
NEOFRACIN * NEO-MANTLE CREME * NEOMIX * NEOMYCINE SULFATE * NEOMYCIN
SULPHATE * NEW FRANCE F * OTOBIOTIC * QUINTESS-N * USAF CB-19 *

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

POSSIBLE RISK OF HARM TO THE UNBORN CHILD.

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

IRRITANT

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

TARGET ORGAN(S):

KIDNEYS

EARS

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.

SECTION 4. ----- FIRST-AID MEASURES -----

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.

WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA
WATER SPRAY.
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.
UNUSUAL FIRE AND EXPLOSIONS HAZARDS
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES -----

EVACUATE AREA.
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, BOOTS AND HEAVY GLOVES.
WEAR DISPOSABLE COVERALLS AND DISCARD THEM AFTER USE.
SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
AVOID RAISING DUST.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. ----- HANDLING AND STORAGE -----

REFER TO SECTION 8.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION -----

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
USE ONLY IN A CHEMICAL FUME HOOD.
SAFETY SHOWER AND EYE BATH.
DO NOT BREATHE DUST.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
KEEP TIGHTLY CLOSED.
MOISTURE, HEAT AND LIGHT SENSITIVE
STORE IN A COOL DRY PLACE.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

APPEARANCE
POWDER
PHYSICAL PROPERTIES
SOLUBILITY:
WATER -SOLUBLE ETHANOL -SLIGHTLY SOLUBLE
ETHER -INSOLUBLE ACETONE -INSOLUBLE

SECTION 10. ----- STABILITY AND REACTIVITY -----

STABILITY
STABLE.
CONDITIONS TO AVOID
HEAT
INCOMPATIBILITIES
STRONG OXIDIZING AGENTS
MOISTURE
MAY DECOMPOSE ON EXPOSURE TO LIGHT.
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:

CARBON MONOXIDE, CARBON DIOXIDE
 NITROGEN OXIDES
 SULFUR OXIDES
 HAZARDOUS POLYMERIZATION
 WILL NOT OCCUR.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS

MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.
 CAUSES EYE AND SKIN IRRITATION.
 MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER
 RESPIRATORY TRACT.
 MAY CAUSE ALLERGIC RESPIRATORY AND SKIN REACTIONS.

CHRONIC EFFECTS

POSSIBLE RISK OF CONGENITAL MALFORMATION IN THE FETUS.

TARGET ORGAN(S):

KIDNEYS

EARS

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
 TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

ADDITIONAL INFORMATION

AMINOGLYCOSIDES ARE ASSOCIATED WITH SIGNIFICANT NEPHROTOXICITY AND/OR
 OTOTOXICITY.

RTECS #: QP4375000

NEOMYCIN, SULFATE (SALT)

IRRITATION DATA

SKN-HMN 6 MG/3D-I MLD

85DKA8 -,127,1977

TOXICITY DATA

SCU-RAT LD50:200 MG/KG

ARZNAD 12,597,1962

ORL-MUS LD50:>8 GM(BASE)/KG

AACHAX -,138,1963

IPR-MUS LD50:305 MG/KG

ANTCAO 8,198,1958

SCU-MUS LD50:190 MG/KG

ANTBAL 18,444,1973

IVN-MUS LD50:17400 UG/KG

AITEAT 10,947,1962

IMS-MUS LD50:142 MG/KG

AIMDAP 119,493,1967

ICE-MUS LD50:32 MG/KG

TXAPA9 7,361,1965

IMS-GPG LD50:>250 MG/KG

TXAPA9 33,320,1975

TARGET ORGAN DATA

SENSE ORGANS AND SPECIAL SENSES (CHANGE IN ACUITY)

BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)

ADDITIONAL INFORMATION

ORL-RAT LD50:>4325 MG/KG (SUPPLIER DATA).

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
 (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
 COMPLETE INFORMATION.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

NOT REGULATED.

SECTION 15. ----- REGULATORY INFORMATION -----

EUROPEAN INFORMATION

R: 36/37/38

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

R: 42/43

MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.

R: 60/61

MAY IMPAIR FERTILITY, MAY CAUSE HARM TO THE UNBORN CHILD.

S: 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

TLV AND SOURCE

EXPOSURE LIMIT-TWA: 2 MG/M3 (SUPPLIER DATA)

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

EPA FIFRA 1988 PESTICIDE SUBJECT TO REGISTRATION OR RE-REGISTRATION

FEREAC 54,7740,1989

NOES 1983: HZD X3700; NIS 23; TNF 3566; NOS 33; TNE 180078; TFE 143663

NOES 1983: HZD X9498; NIS 5; TNF 1014; NOS 11; TNE 16279; TFE 12693

EPA GENETOX PROGRAM 1988, POSITIVE: SPERM MORPHOLOGY-RAT

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

U.S. INFORMATION

CALIFORNIA PROPOSITION 65:

THIS PRODUCT IS OR CONTAINS CHEMICAL(S) KNOWN TO THE STATE OF CALIFORNIA TO CAUSE DEVELOPMENTAL TOXICITY.

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. AMRESCO INC. SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.



UNIVAR

Univar USA Inc.
6100 Carillon Point
Kirkland, WA 98033
(425) 889-3400

For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

The Version Date for this MSDS is : 04/23/2002

PRODUCT NAME:
VERSENE* NA CHELATING AGENT

MSDS #: DW90864

2. COMPOSITION/INFORMATION ON INGREDIENTS

DISODIUM SALT OF ETHYLENEDIAMINETETRAACETIC	CAS# 006381-92-6	99%
ACID DIHYDRATE	CAS# 007732-18-5	1%
WATER		

THE CAS# FOR TSCA = 000139-33-3

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

* WHITE CRYSTALLINE SOLID. ODORLESS. NO SIGNIFICANT IMMEDIATE *
* HAZARDS FOR EMERGENCY RESPONSE ARE KNOWN. *

POTENTIAL HEALTH EFFECTS (SEE SECTION 11 FOR TOXICOLOGICAL DATA.)

EYE: MAY CAUSE SLIGHT TRANSIENT (TEMPORARY) EYE IRRITATION.
CORNEAL INJURY IS UNLIKELY.

SKIN: PROLONGED EXPOSURE MAY CAUSE SKIN IRRITATION. REPEATED
EXPOSURE MAY CAUSE SKIN BURNS. MAY CAUSE MORE SEVERE RESPONSE
IF CONFINED TO SKIN OR SKIN IS ABRADED (SCRATCHED OR CUT).
A SINGLE PROLONGED EXPOSURE IS NOT LIKELY TO RESULT IN THE
MATERIAL BEING ABSORBED THROUGH SKIN IN HARMFUL AMOUNTS.

INGESTION: SINGLE DOSE ORAL TOXICITY IS CONSIDERED TO BE LOW.
SMALL AMOUNTS SWALLOWED INCIDENTAL TO NORMAL HANDLING OPERATIONS
ARE NOT LIKELY TO CAUSE INJURY; HOWEVER, SWALLOWING LARGER
AMOUNTS MAY CAUSE INJURY.

INHALATION: SINGLE EXPOSURE TO DUST IS NOT LIKELY TO BE
HAZARDOUS.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: NO TOXICOLOGIC EFFECTS
WERE OBSERVED IN LABORATORY ANIMALS FED THIS MATERIAL.

CANCER INFORMATION: THE TRISODIUM SALT OF EDTA DID NOT CAUSE
CANCER IN LABORATORY ANIMALS.

TERATOLOGY (BIRTH DEFECTS):

DISODIUM EDTA HAS BEEN REPORTED TO CAUSE BIRTH DEFECTS IN LABORATORY ANIMALS ONLY AT EXAGGERATED DOSES THAT WERE TOXIC TO THE MOTHER. THESE EFFECTS ARE LIKELY ASSOCIATED WITH ZINC DEFICIENCY DUE TO CHELATION. BIRTH DEFECTS ARE UNLIKELY. EXPOSURES HAVING NO EFFECT ON THE MOTHER SHOULD HAVE NO EFFECT ON THE FETUS.

REPRODUCTIVE EFFECTS: BASED ON LIMITED DATA, NOT LIKELY TO AFFECT REPRODUCTION.

4. FIRST AID

EYE: FLUSH EYES WITH PLENTY OF WATER.

SKIN: WASH OFF IN FLOWING WATER OR SHOWER.

INGESTION: IF SWALLOWED, SEEK MEDICAL ATTENTION. DO NOT INDUCE VOMITING UNLESS DIRECTED TO DO SO BY MEDICAL PERSONNEL.

INHALATION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN.

NOTE TO PHYSICIAN: IF BURN IS PRESENT, TREAT AS ANY THERMAL BURN, AFTER DECONTAMINATION. NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGMENT OF THE PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATIENT.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: FLASH POINT DATA NOT REQUIRED FOR A SOLID.

METHOD USED: NOT APPLICABLE.

AUTOIGNITION TEMPERATURE: NOT APPLICABLE.

FLAMMABILITY LIMITS

LFL: NOT APPLICABLE.

UFL: NOT APPLICABLE.

HAZARDOUS COMBUSTION PRODUCTS: FIRE CONDITIONS MAY CAUSE THIS PRODUCT TO DECOMPOSE. REFER TO "HAZARDOUS DECOMPOSITION SECTION".

OTHER FLAMMABILITY INFORMATION: MECHANICAL HANDLING CAN CAUSE FORMATION OF DUSTS. TO REDUCE THE POTENTIAL FOR DUST EXPLOSION, DO NOT PERMIT DUST TO ACCUMULATE.

EXTINGUISHING MEDIA: THIS MATERIAL DOES NOT BURN. IF EXPOSED TO FIRE FROM ANOTHER SOURCE, USE SUITABLE EXTINGUISHING AGENT FOR THAT FIRE.

FIRE FIGHTING INSTRUCTIONS: KEEP PEOPLE AWAY. ISOLATE FIRE AREA AND DENY UNNECESSARY ENTRY. PROCESSING THIS PRODUCT MAY GENERATE DUSTS. DUST EXPLOSION HAZARD MAY RESULT FROM FORCEFUL APPLICATION OF FIRE EXTINGUISHING AGENTS. HAND HELD CARBON DIOXIDE OR DRY CHEMICAL EXTINGUISHERS MAY BE USED FOR SMALL FIRES.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: WEAR POSITIVE-PRESSURE SELF-CONTAINED BREATHING APPARATUS (SCBA) AND PROTECTIVE FIRE FIGHTING CLOTHING (INCLUDES FIRE FIGHTING HELMET, COAT, PANTS, BOOTS, AND GLOVES). IF PROTECTIVE EQUIPMENT IS NOT AVAILABLE OR NOT USED, FIGHT FIRE FROM A PROTECTED LOCATION OR SAFE DISTANCE.

6. ACCIDENTAL RELEASE MEASURES (SEE SECTION 15 FOR REGULATORY INFORMATION)

PROTECT PEOPLE: ISOLATE AREA.

PROTECT THE ENVIRONMENT: CONTAIN MATERIAL TO PREVENT CONTAMINATION OF SOIL, SURFACE WATER OR GROUND WATER.

CLEANUP: SWEEP UP. CLEAN UP USING TOOLS WHICH WILL NOT PRODUCE SPARKS. SPILLS SHOULD BE CLEANED UP IMMEDIATELY USING CARE TO MINIMIZE GENERATION OF AIRBORNE DUST.

7. HANDLING AND STORAGE

HANDLING: GOOD HOUSEKEEPING AND CONTROLLING OF DUSTS ARE NECESSARY FOR SAFE HANDLING OF PRODUCT.

STORAGE: DO NOT STORE IN ALUMINUM, CARBON STEEL, COPPER, COPPER ALLOYS, ZINC OR NICKEL CONTAINERS. STORE BETWEEN 0 AND 120F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: GOOD GENERAL VENTILATION SHOULD BE SUFFICIENT FOR MOST CONDITIONS. LOCAL EXHAUST VENTILATION MAY BE NECESSARY FOR SOME OPERATIONS.

PERSONAL PROTECTIVE EQUIPMENT
EYE/FACE PROTECTION: USE SAFETY GLASSES.

SKIN PROTECTION: WHEN PROLONGED OR FREQUENTLY REPEATED CONTACT COULD OCCUR, USE PROTECTIVE CLOTHING IMPERVIOUS TO THIS MATERIAL. SELECTION OF SPECIFIC ITEMS SUCH AS FACESHIELD, GLOVES, BOOTS, APRON, OR FULL-BODY SUIT WILL DEPEND ON OPERATION. IF HANDS ARE CUT OR SCRATCHED, USE GLOVES IMPERVIOUS TO THIS MATERIAL EVEN FOR BRIEF EXPOSURES.

RESPIRATORY PROTECTION: IN DUSTY ATMOSPHERES, USE AN APPROVED DUST RESPIRATOR.

EXPOSURE GUIDELINES: NONE ESTABLISHED.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: WHITE CRYSTALLINE SOLID.
ODOR: ODORLESS.
VAPOR PRESSURE: < 0.01 MMHG
VAPOR DENSITY: NOT APPLICABLE.
BOILING POINT: NOT APPLICABLE.
SOLUBILITY IN WATER: 10G/100G @25C
SPECIFIC GRAVITY: BULK DENSITY 61 LBS/CU FT.

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: STABLE UNDER RECOMMENDED STORAGE CONDITIONS. SEE STORAGE SECTION.

CONDITIONS TO AVOID: NONE KNOWN.

INCOMPATIBILITY WITH OTHER MATERIALS: AVOID CONTACT WITH OXIDIZING MATERIALS. AVOID CONTACT WITH METALS SUCH AS: ALUMINUM. FLAMMABLE HYDROGEN IS FORMED IN THE PRESENCE OF ALUMINUM.

HAZARDOUS DECOMPOSITION PRODUCTS: HAZARDOUS DECOMPOSITION PRODUCTS MAY INCLUDE AND ARE NOT LIMITED TO: AMMONIA AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR.

11. TOXICOLOGICAL INFORMATION (SEE SECTION 3 FOR POTENTIAL HEALTH

EFFECTS. FOR DETAILED TOXICOLOGICAL DATA, WRITE OR CALL THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

SKIN: THE DERMAL LD50 HAS NOT BEEN DETERMINED.

INGESTION: THE ORAL LD50 FOR RATS IS APPROXIMATELY 2000 MG/KG.

MUTAGENICITY: MOST DATA INDICATE THAT EDTA AND ITS SALTS ARE NOT MUTAGENIC. MINIMAL EFFECTS REPORTED ARE LIKELY DUE TO TRACE METAL DEFICIENCIES RESULTING FROM CHELATION BY EDTA.

12. ECOLOGICAL INFORMATION (FOR DETAILED ECOLOGICAL DATA, WRITE OR CALL

THE ADDRESS OR NON-EMERGENCY NUMBER SHOWN IN SECTION 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: BASED LARGELY OR COMPLETELY ON INFORMATION FOR SIMILAR MATERIAL. BIOCONCENTRATION POTENTIAL IS LOW (BCF LESS THAN 100 OR LOG POW LESS THAN 3).

DEGRADATION & PERSISTENCE: BASED LARGELY OR COMPLETELY ON INFORMATION FOR SIMILAR MATERIAL. CHEMICAL OR PHYSICAL DEGRADATION IS EXPECTED IN THE ENVIRONMENT. BIODEGRADATION UNDER AEROBIC LABORATORY CONDITIONS IS BELOW DETECTABLE LIMITS. DEGRADATION IS EXPECTED IN THE SOIL ENVIRONMENT.

ECOTOXICITY: BASED LARGELY OR COMPLETELY ON INFORMATION FOR SIMILAR MATERIAL. MATERIAL IS PRACTICALLY NON-TOXIC TO AQUATIC ORGANISMS ON AN ACUTE BASIS (LC50 GREATER THAN 100 MG/L IN MOST SENSITIVE SPECIES).

13. DISPOSAL CONSIDERATIONS (SEE SECTION 15 FOR REGULATORY INFORMATION)

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. ALL DISPOSAL METHODS MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE/PROVINCIAL AND LOCAL LAWS AND REGULATIONS. REGULATIONS MAY VARY IN DIFFERENT LOCATIONS. WASTE CHARACTERIZATIONS AND COMPLIANCE WITH APPLICABLE LAWS ARE THE RESPONSIBILITY SOLELY OF THE WASTE GENERATOR. THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (COMPOSITION/ INFORMATION ON INGREDIENTS). FOR UNUSED & UNCONTAMINATED PRODUCT,

FOR UNUSED & UNCONTAMINATED PRODUCT, THE PREFERRED OPTIONS INCLUDE SENDING TO A LICENSED, PERMITTED: RECYCLER, INCINERATOR OR OTHER THERMAL DESTRUCTION DEVICE, WASTE WATER TREATMENT SYSTEM, OR LANDFILL.

AS A SERVICE TO ITS CUSTOMERS, DOW CAN PROVIDE NAMES OF INFORMATION RESOURCES TO HELP IDENTIFY WASTE MANAGEMENT COMPANIES AND OTHER FACILITIES WHICH RECYCLE, REPROCESS OR MANAGE CHEMICALS OR PLASTICS, AND THAT MANAGE USED DRUMS. TELEPHONE DOW'S CUSTOMER INFORMATION CENTER AT 800-258-2436 OR 989-832-1556 FOR FURTHER DETAILS.

14. TRANSPORT INFORMATION

DEPARTMENT OF TRANSPORTATION (D.O.T.): FOR DOT REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS OR CONTACT YOUR DOW REPRESENTATIVE.

CANADIAN TDG INFORMATION: FOR TDG REGULATORY INFORMATION, IF REQUIRED, CONSULT TRANSPORTATION REGULATIONS, PRODUCT SHIPPING PAPERS, OR CONTACT YOUR DOW REPRESENTATIVE.

15. REGULATORY INFORMATION (NOT MEANT TO BE ALL-INCLUSIVE--SELECTED REGULATIONS REPRESENTED)

NOTICE: THE INFORMATION HEREIN IS PRESENTED IN GOOD FAITH AND

BELIEVED TO BE ACCURATE AS OF THE EFFECTIVE DATE SHOWN ABOVE. HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED IS GIVEN. REGULATORY REQUIREMENTS ARE SUBJECT TO CHANGE AND MAY DIFFER FROM ONE LOCATION TO ANOTHER; IT IS THE BUYER'S RESPONSIBILITY TO ENSURE THAT ITS ACTIVITIES COMPLY WITH FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS. THE FOLLOWING SPECIFIC INFORMATION IS MADE FOR THE PURPOSE OF COMPLYING WITH NUMEROUS FEDERAL, STATE OR PROVINCIAL, AND LOCAL LAWS AND REGULATIONS. SEE OTHER SECTIONS FOR HEALTH AND SAFETY INFORMATION.

SARA 313 INFORMATION: TO THE BEST OF OUR KNOWLEDGE, THIS PRODUCT CONTAINS NO CHEMICAL SUBJECT TO SARA TITLE III SECTION 313 SUPPLIER NOTIFICATION REQUIREMENTS.

SARA HAZARD CATEGORY: THIS PRODUCT HAS BEEN REVIEWED ACCORDING TO THE EPA "HAZARD CATEGORIES" PROMULGATED UNDER SECTIONS 311 AND 312 OF THE SUPERFUND AMENDMENT AND REAUTHORIZATION ACT OF 1986 (SARA TITLE III) AND IS CONSIDERED, UNDER APPLICABLE DEFINITIONS, TO MEET THE FOLLOWING CATEGORIES:

NOT TO HAVE MET ANY HAZARD CATEGORY

TOXIC SUBSTANCES CONTROL ACT (TSCA):

ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY.

STATE RIGHT-TO-KNOW: THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY SUBSTANCES SUBJECT TO THE DISCLOSURE REQUIREMENTS OF

NEW JERSEY
PENNSYLVANIA

OSHA HAZARD COMMUNICATION STANDARD:

THIS PRODUCT IS NOT A "HAZARDOUS CHEMICAL" AS DEFINED BY THE OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200.

CANADIAN REGULATIONS

WHMIS INFORMATION: THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS) CLASSIFICATION FOR THIS PRODUCT IS:

D2B - EYE OR SKIN IRRITANT
REFER ELSEWHERE IN THE MSDS FOR SPECIFIC WARNINGS AND SAFE HANDLING INFORMATION. REFER TO THE EMPLOYER'S WORKPLACE EDUCATION PROGRAM.

CPR STATEMENT: THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS (CPR) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

HAZARDOUS PRODUCTS ACT INFORMATION: THIS PRODUCT CONTAINS THE FOLLOWING INGREDIENTS WHICH ARE CONTROLLED PRODUCTS AND/OR ON THE INGREDIENT DISCLOSURE LIST (CANADIAN HPA SECTION 13 AND 14):

COMPONENTS:	CAS #	AMOUNT (%W/W)
DISODIUM SALT OF ETHYLENE- DIAMINETETRAACETIC ACID DIHYDRATE	CAS# 006381-92-6	99%

16. OTHER INFORMATION

MSDS STATUS: NO REVISIONS. REVIEWED FOR CANADIAN REGULATIONS.

For Additional Information:

Contact: MSDS Coordinator - Univar USA

During business hours, Pacific Time - (425) 889-3400

NOTICE

Univar USA expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar USA Sales Office.

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END OF MSDS

MATERIAL SAFETY DATA SHEET

AMRESKO INC.
30175 SOLON INDUSTRIAL PARKWAY
SOLON, OHIO 44139

EMERGENCY TELEPHONE NUMBER:
CHEMTREC (800) 424-9300

TELEPHONE NUMBER FOR INFORMATION:
(800) 448-4442 OR (440) 349-1199

DATE PREPARED: 12-23-97

REVIEWED: 1-29-03

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

CODE#: 0497
NAME: TRIS

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CHEMICAL NAME:	CAS#:	RTECS #:	%:
TRIS	77-86-1	TY2900000	>99.0

FOR MORE INFORMATION SEE COMPLETE RTECS ENTRY.

MF: C4H11NO3
EC NO: 201-064-4

SYNONYMS

ADDEX-THAM * 2-AMINO-2-(HYDROXYMETHYL)PROPANE-1,3-DIOL * 2-AMINO-2-(HYDROXYMETHYL)-1,3-PROPANEDIOL * 2-AMINO-2-METHYLOL-1,3-PROPANEDIOL * AMINOTRIMETHYLOLMETHANE * AMINOTRIS(HYDROXYMETHYL)METHANE * METHYLAMINE, 1,1,1-TRIS(HYDROXYMETHYL)- * PEHANORM * TALATROL * THAM-E * THAM SET * TRIMETHYLOLAMINOMETHANE * TRIS (BUFFERING AGENT) * TRISAMINE * TRIS-AMINO * TRISAMINOL * TRIS BUFFER * TRIS-HYDROXYMETHYL-AMINOMETHAN (GERMAN) * TRIS-HYDROXYMETHYLAMINOMETHANE * TRIS(HYDROXYMETHYL)METHANAMINE * TRIS(HYDROXYMETHYL)METHYLAMINE * TRISPUFFER * TRIS-STERIL * TROMETAMOL * TROMETAMOLE * TROMETHAMINE * TROMETHANE * TROMETHANMIN * TUTOFUSIN TRIS *

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

IRRITANT

IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

WEAR SUITABLE PROTECTIVE CLOTHING.

SECTION 4. ----- FIRST-AID MEASURES -----

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. WHILE REMOVING CONTAMINATED CLOTHING AND SHOES.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CALL A PHYSICIAN.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA

WATER SPRAY.

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.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY RUBBER GLOVES.

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.

AVOID RAISING DUST.

VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. ----- HANDLING AND STORAGE-----

REFER TO SECTION 8.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

CHEMICAL SAFETY GOGGLES.

COMPATIBLE CHEMICAL-RESISTANT GLOVES.

NIOSH/MSHA-APPROVED RESPIRATOR.

SAFETY SHOWER AND EYE BATH.

MECHANICAL EXHAUST REQUIRED.

DO NOT BREATHE DUST.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

AVOID PROLONGED OR REPEATED EXPOSURE.

WASH THOROUGHLY AFTER HANDLING.

KEEP TIGHTLY CLOSED.

HYGROSCOPIC

STORE IN A COOL DRY PLACE.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

APPEARANCE AND ODOR

SOLID.

PHYSICAL PROPERTIES

MELTING POINT: 168 TO 172C

SECTION 10. ----- STABILITY AND REACTIVITY -----

STABILITY

STABLE.

INCOMPATIBILITIES

BASES

OXIDIZING AGENTS

PROTECT FROM MOISTURE.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

THERMAL DECOMPOSITION MAY PRODUCE CARBON MONOXIDE, CARBON DIOXIDE, AND NITROGEN OXIDES.

HAZARDOUS POLYMERIZATION

WILL NOT OCCUR.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ACUTE EFFECTS

MAY BE HARMFUL BY INHALATION, INGESTION, OR SKIN ABSORPTION.

CAUSES EYE AND SKIN IRRITATION.

MATERIAL IS IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

RTECS #: TY2900000

1,3-PROPANEDIOL, 2-AMINO-2-(HYDROXYMETHYL)-

TOXICITY DATA

ORL-RAT LD50:5900 MG/KG

BCFAAI 110,653,1971

IVN-RAT LD50:1800 MG/KG

NIIRDN -,419,1990

IVN-MUS LD50:1210 MG/KG

ABMGAJ 17,217,1966

TARGET ORGAN DATA

BEHAVIORAL (SOMNOLENCE)
BEHAVIORAL (MUSCLE WEAKNESS)
BEHAVIORAL (COMA)
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. ----- ECOLOGICAL INFORMATION -----
DATA NOT YET AVAILABLE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----
DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A
CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----
NOT REGULATED.

SECTION 15. ----- REGULATORY INFORMATION -----
EUROPEAN INFORMATION

IRRITANT
R: 36/37/38
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
S: 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS
OEL=MAK
NOHS 1974: HZD 81165; NIS 4; TNF 850; NOS 6; TNE 7274
NOES 1983: HZD 81165; NIS 9; TNF 2296; NOS 22; TNE 40897; TFE 30773
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY

SECTION 16. ----- OTHER INFORMATION -----
THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO
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