

AVISTA TECHNOLOGIES -- NTFREEZE -- 6850-01-429-9840

===== Product Identification =====

Product ID:NTFREEZE  
MSDS Date:07/02/1999  
FSC:6850  
NIIN:01-429-9840  
Status Code:A  
MSDS Number: CLCPJ  
=== Responsible Party ===  
Company Name:AVISTA TECHNOLOGIES  
Address:133 NORTH PACIFIC STREET  
City:SAN MARCOS  
State:CA  
ZIP:92069  
Country:US  
Info Phone Num:1-202-493-7616  
Emergency Phone Num:760-744-0536  
Chemtec In  
d/Phone:(800)424-9300  
CAGE:1R9H9  
=== Contractor Identification ===  
Company Name:AVISTA TECHNOLOGIES  
Address:133 NORTH PACIFIC STREET  
Box:City:SAN MARCOS  
State:CA  
ZIP:92069  
Country:US  
Phone:1-202-493-7616  
Contract Num:SP0450-01-M-ZA43  
CAGE:1R9H9

===== Composition/Information on Ingredients =====

Ingred Name:PROPYLENE GLYCOL  
CAS:57-55-6  
RTECS #:TY2000000  
Other REC Limits:NONE RECOMMENDED

===== Hazards Identification =====

LD50 LC50 Mixture:LD

50 (ORAL, RAT): 20,000 MG/KG

Routes of Entry: Inhalation:NO Skin:YES Ingestion:YES

Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO

Health Hazards Acute and Chronic:EYES: MAY CAUSE SLIGHT TRANSIENT EYE IRRITATION. CORNEAL INJURY IS UNLIKELY. MISTS MAY CAUSE EYE IRRITATION. SKIN: PROLONGED CONTACT IS ESSENTIALLY NON-IRRITATING. REPEATED EXPOSURES MAY CAUSE FLAKING & SOFTENING OF SKIN IN HARMFUL AMOUNTS. MAY BE ABSORBED IN HARMFUL AMOUNTS WHEN APPLIED TO ALRGE BURNS OVER

LARGE AREAS OF THE BODY IN A CREAM. INGESTION:

SINGLE DOSE ORAL TOXICITY IS CONSIDERED EXTR EMLY LOW. NO HAZARDS NTICIPATED FROM SWALLOWING SMALL AMOUNTS INCIDENTAL TO NORMAL HANDLING. INHALED: VAPORS ARE MINIMAL AT ROOM TEMPERATURES. MISTS MAY CAUSE IRRITATION OF UPPER RESPIRATORY TRACT IRR ITATION.

(SUPPLEMENTAL)

Explanation of Carcinogenicity:DID NOT CAUSE CANCER IN LONG-TERM ANIMAL STUDIES.

Effects of Overexposure:EYES: SLIGHT TRANSIENT IRRITATION. SKIN: FLAKING/S

OFTENING OF SKIN. INGESTION: NONE INCIDENTAL TO NORMAL HANDLING. INHALATION: IRRITATION OF UPPER RESPIRATORY TRACT. OTHER: CNS EFFECTS.

Medical Cond Aggravated by Exposure:NONE SPECIFIED BY MANUFACTURER.

===== First Aid Measures =====

First Aid:EYE: FLUSH EYES WITH PLENTY OF WATER. SKIN: WASH OFF WITH FLOWING WATER OR SHOWER. INGESTION: NO ADVERSE EFFECTS ANTICIPATED BY THIS ROUTE OF EXPOSURE INCIDENTAL TO PROPER INDUSTRIAL HANDLING.

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NHALAT ION: REMOVE TO FRESH AIR IF EFFECTS OCCUR. CONSULT A PHYSICIAN. NOTE TO PHYSICIAN: NO SPECIFIC ANTIDOTE. SUPPORTIVE CARE. TREATMENT BASED ON JUDGEMENT OF PHYSICIAN IN RESPONSE TO REACTIONS OF THE PATI ENT.

===== Fire Fighting Measures =====

Flash Point Method:PMCC

Flash Point:=103.3C, 218.F

Autoignition Temp:Autoignition Temp Text:N/D

Lower Limits:2.6

Upper Limits:12.5

Extinguishing Media:WATER FOR OR FINE SPRAY. CARBON DIOXIDE. DRY CHEM

ICAL. FOAM. ALCOHOL RESISTENT FOAM (ATC TYPE) ARE PREFERRED. DO NOT USE DIRECT WATER STREAM, MAY SPREAD FIRE.

Fire Fighting Procedures:KEEP PEOPLE AWAY. ISOLATE FIRE AREA & DENY UNNECESSARY ENTRY. BURNING LIQUIDS MAY BE MOVED BY FLUSHING WITH WATER. WEAR POSITIVE-PRESSURE SCBA & PROTECTIVE FIREFIGHTING CLOTHING.

Unusual Fire/Explosion Hazard:VIOLENT STEAM GENERATION OR ERUPTION MAY OCCUR UPON APPLICATION OF DIRECT STREAM OF WATER TO HOT LIQUID. SPILLS OF THIS ORGANIC LIQUID ON HOT FIBROUS INSULATIONS MAY LEAD TO LOWERING OF AUTOIGNITION TEMPERATURES. LEADING TO SPONTANEOUS COMBUSTION.

===== Accidental Release Measures =====

Spill Release Procedures:ISOLATE AREA. CONTAIN LIQUID TO PREVENT CONTAMINATION OF SOIL, SURFACE WATER OR GROUND WATER. SMALL SPILL: CLEAN UP WITH ABSORBENT MATERIAL. COLLECT IN SUITABLE & PROPERLY LABELED OPEN CONTAINERS. LARGE SPILL: DIKE & PUMP INTO SUITABLE & PROPERLY MARKED CONTAINERS

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

===== Handling and Storage =====

Handling and Storage Precautions:PRODUCT HANDLED HOT MAY REQUIRE ADDITIONAL VENTILATION OR LOCAL EXHAUST. KEEP CONTAINERS TIGHTLY CLOSED WHEN NOT IN USE. STORE IN STAINLESS STEEL, ALUMINUM, PLASTITE 3066 LINED CONTAINERS OR 316 STAINLESS STEEL.

Other Precautions:NOT PROVIDED BY MANUFACTURER.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:ATMOSPHERIC LEVELS SHOULD BE MAINTAINED BELOW THE EXPOSURE GUIDELINE. WHEN RESPIRATORY PROTECTION IS REQUIRED FOR CERTAIN OPERATIONS, USE AN APPROVED AIR-PURIFYING RESPIRATOR. IN MISTY ATMOSPHERES, USE AN APPROVED MIST RESPIRATOR.

Ventilation:PROVIDE GENERAL AND/OR LOCAL EXHAUST VENTILATION TO CONTROL AIRBORNE LEVELS BELOW THE EXPOSURE GUIDELINES.

Protective Gloves:USE GLOVES IMPERVIOUS TO THIS MATERIAL.

Eye Protection:USE SAFETY GLASSES. FOR MISTY OPERATI

ONS, USE CHEMICAL  
GOGGLES.

Other Protective Equipment:NO DATA PROVIDED BY MANUFACTURER. DLA-HMIS:  
EYE WASH STATION & WASHING FACILITIES.

Work Hygienic Practices:NOT PROVIDED BY MANUFACTURER.

Supplemental Safety and Health

ACUTE/CHRONIC CONTINUED: SYSTEMIC (OTHER THAN TARGET ORGAN) EFEFCTS:  
REPEATED EXCESSIVE INGESTION MAY CAUSE CENTRAL NERVOUS SYSTEM (CNS)  
EFFECTS.

===== Physical/Chemical Properties =====

HCC:V5

Boiling Pt:=187.8C, 370.F

Vapor Pres:0

.08 MMHG @ 20C, 68F

Vapor Density:2.62

Spec Gravity:1.038 20/20C, 68F

pH:NP

Viscosity:NP

Evaporation Rate & Reference:NP

Solubility in Water:COMPLETE

Appearance and Odor:COLORLESS LIQUID.

Percent Volatiles by Volume:NP

Corrosion Rate:NP

===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid:YES

AVOID CONTACT WITH OXIDIZING MATERIALS.

Stability Condition to Avoid:PRODUCT CAN DECOMPOSE AT HIGHER  
TEMPERATURES.

Hazardous Decomposition Pro

ducts:IN A FIRE OR WHEN HEATED TO VERY HIGH

TEMPERATURES, CARBON MONOXIDE AND OTHER HAZARDOUS COMPOUNDS SUCH AS  
ALDEHYDES MIGHT BE GENERATED.

Conditions to Avoid Polymerization:WILL NOT OCCUR.

===== Toxicological Information =====

Toxicological Information:FOR DETAILED TOXICOLOGICAL INFORMATION, WRITE  
OR CALL THE MANUFACTURER AT THE ADDRESS OR NON-EMERGENCY PHONE  
NUMBER SHOWN IN THE MSDS INFORMATION DETAIL ("PAGE" 1). SKIN: THE  
LD50 FOR SKIN ABS

ORPTION IN RABBITS IS >10,000 MG/KG. INGESTION:

THE ORAL LD50 FOR RATS IS 20,000-34,000 MG/KG. MUTAGENICITY: IN VITRO MUTAGENICITY STUDIES WERE NEGATIVE. ANIMAL MUTAGENICITY STUDIES WERE NEGATIVE.

===== Ecological Information =====

Ecological: MOVEMENT & PARTITIONING: BIOCONCENTRATION POTENTIAL IS LOW. LOG OCTANOL/WATER PARTITION COEFFICIENT (LOG POW) IS -0.92. HENRY'S LAW CONSTANT (H) IS 1.2E-8 ATM.M<sup>3</sup>/MOLE. DEGRADATION & PERSISTENCE: BI

ODE GRADATION UNDER STATIC ANEROBIC CONDITIONS IS HIGH (BOD<sub>20</sub> OR BOD<sub>28</sub>/THOD > 40%). 5-DAY BIOCHEMICAL OXYGEN DEMMAND (BOD<sub>5</sub>) IS 1.16 P/P. 20 DAY BIOCHEMICAL OXYGEN DEMAND (BOD<sub>20</sub>) IS 1.45 P/P.

THEORETICAL OXYGEN DEMAND (THOD) IS CALCULATED TO BE 1.68 P/P.

ECOTOXICITY: PRACTICALLY NON-TOXIC TO AQUATIC ORGANISMS. ACUTE LC<sub>50</sub> FOR FATHEAD MINNOW IS 4600-54900 MG/L.

===== Disposal Considerations =====

Waste Disposal Methods: DO NOT PUMP TO SEWERS, ON THE GROUND OR INTO ANY

BODY OF WATER. ALL DISPOSAL METHODS MUST BE IN COMPLIANCE WITH ALL FEDERAL, STATE & LOCAL LAWS & REGULATIONS. WASTE CHARACTERISTICS & COMPLIANCE WITH APPLICABLE LAWS ARE THE RESPONSIBILITY OF THE WASTE GENERATOR. (SEE OTHER INFORMATION).

===== MSDS Transport Information =====

Transport Information: DEPARTMENT OF TRANSPORTATION: THIS PRODUCT IS NOT REGULATED BY D.O.T. WHEN SHIPPED DOMESTICALLY BY LAND. CANADIAN TDG IN

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

===== Regulatory Information =====

SARA Title III Information: SARA 313: TO THE BEST OF MANUFACTURER'S 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 "HAZAR

D CATEGORIES" PROMULGATED UNDER SECTIONS 311 & 312 OF THE SUPERFUND AMENDMENT & REAUTHORIZATION ACT OF 1986 (SARA TITLE III) & IS CONSIDERED UNDER APPLICABLE DEFINITIONS TO MEET THE FOLLOWING CATEGORIES: NOT TO HAVE MET ANY HAZARD CATEGORY.

Federal Regulatory Information: TOXIC SUBSTANCES CONTROL ACT: ALL INGREDIENTS ARE ON THE TSCA INVENTORY OR ARE NOT REQUIRED TO BE LISTED ON THE TSCA INVENTORY. OSHA HAZARD COMMUNICATION STANDARD: THIS PRODUCT IS NOT A "HAZARDOUS CHEMICAL"

AS DEFINED BY THE OSHA HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200.

State Regulatory Information: STATE RIGHT-TO-KNOW: THIS PRODUCT IS NOT KNOWN TO CONTAIN ANY SUBSTANCES SUBJECT TO THE DISCLOSURE REQUIREMENTS OF: NEW JERSEY, PENNSYLVANIA.

===== Other Information =====

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