

FISHER SCIENTIFIC CHEMICAL -- 1-BUTANOL, A399 -- 6810-00-939-5390

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

Product ID:1-BUTANOL, A399

MSDS Date:03/24/1993

FSC:6810

NIIN:00-939-5390

MSDS Number: CDXBL

=== Responsible Party ===

Company Name:FISHER SCIENTIFIC CHEMICAL

Address:1 REAGENT LANE

City:FAIR LAWN

State:NJ

ZIP:07410

Country:US

Info Phone Num:201-796-7100

Emergency Phone Num:800-424-9300 (CHEMTREC)

CAGE:1B464

=== Contractor Identification ===

Company Name:FISHER SCIENTIFIC CO. CHEMICAL MFG DIV

Address:1 REAGENT LANE

Box:City:FAIRLAWN

State:NJ

ZIP:07410-2802

Country:US

Phone:201-796-7100

CAGE:1B464

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

Ingred Name:BUTYL ALCOHOL; (1-BUTANOL) (SARA 313) (CERCLA)

CAS:71-36-3

RTECS #:EO1400000

Fraction by Wt: 100%

OSHA PEL:100 PPM

ACGIH TLV:50 PPM, S, C

EPA Rpt Qty:5000 LBS

DOT Rpt Qty:5000 LBS

Ingred Name:SUPDAT:WELL AFTER F

IRE IS OUT. STAY AWAY FROM ENDS OF  
TANKS. FOR MASSIVE FIRE IN CARGO AREA, USE UNMANNED HOSE (ING 3)  
RTECS #:9999999ZZ

Ingred Name:ING 2:HOLDER/MONITOR NOZZ; IF THIS IS IMPOSS, W/DRAW FROM  
AREA & LET FIRE BURN. W/DRAW IMMED IN CASE OF RISING (ING 4)  
RTECS #:9999999ZZ

Ingred Name:ING 3:SOUND FROM VENTING SFTY DEVICE/ANY DISCOLORATION OF  
TANK DUE TO FIRE. ISOLATE FOR 1/2 MILE IN ALL (ING 5)  
RTECS #:9999999ZZ

Ingred Name:ING 4:DIRECTIONS IF TANK, RAIL CAR/TANK TRUCK IS INVOLVED  
IN  
FIRE. EXTING ONLY IF FLOW CAN BE STOPPED. USE WATER (ING 6)  
RTECS #:9999999ZZ

Ingred Name:ING 5:IN FLOODING AMTS AS FOG. SOLID STREAMS MAY NOT BE  
EFTIVE. COOL CNTNRS W/FLOODING AMTS OF WATER; APPLY FROM (ING 7)  
RTECS #:9999999ZZ

Ingred Name:ING 6:AS FAR A DISTANCE AS POSSIBLE. AVOID BREATHING TOXIC  
VAPORS. KEEP UPWIND. WATER MAY BE INEFFECTIVE.  
RTECS #:9999999ZZ

Ingred Name:EFTS OF OVEREXP:HEPATIC HYPEREMIA, DEGENERATION OF LIVER &  
KIDNEYS & DEATH IN ANIMALS. CHRONIC:INHAL:MAY AF  
FECT (ING 9)  
RTECS #:9999999ZZ

Ingred Name:ING 8:LIGHT-SENSITIVITY OF DARK-ADAPTED EYES & ELEC  
ACTIVITY OF BRAIN. AUDITORY NERVE & VESTIBULAR INJURY RSLTG (ING  
10)  
RTECS #:9999999ZZ

Ingred Name:ING 9:IN SEV VERTIGO & HEARING LOSS. ANIMALS:LUNG HEMORR.  
REDUCED ERYTHROCYTE COUNT, LYMPHOCYTOSIS, (ING 11)  
RTECS #:9999999ZZ

Ingred Name:ING 10:ALBUMINURIA, EARLY DEGENERATIVE CHANGES OF LIVER &  
CORTICAL & TUBULAR DEGENERATION IN KIDNEYS. REPRO (ING 12)  
RTECS #:9999999ZZ

Ingred Name:

ING 11:EFTS. SKIN:DRYING, CRACKING & ECZEMATOID DERM OF FINGERS & HANDS DUE TO DEFAT ACTION. EYE:MAY RSLT IN (ING 13)  
RTECS #:9999999ZZ

Ingred Name:ING 12:CONJ, VACUOLAR KERATITIS, CHARACT BY VERY FINE TRANSPARENT VACUOLES RESEMBLING TINY BUBBLES OF GAS IN (ING 14)  
RTECS #:9999999ZZ

Ingred Name:ING 13:EPITHELIAL LAYERS OF CORNEA. CONJ & CORNEAL EDEMA RSLTG IN LACRIM, BLURRING OF VISION, CORNEAL INFLAMM, (ING 15)  
RTECS #:9999999ZZ

Ingred Name:ING 14:PHOTOPHOBIA & BURNING SENSATION W/INFLAMM CLEARING  
W/IN A FEW DAYS W/NO RESIDUAL DMG. INGEST:LIVER DMG IN(ING 16)  
RTECS #:9999999ZZ

Ingred Name:ING 15:RATS. TARGET EFTS:CNS DEPRESSANT. POIS MAY ALSO AFFECT LIVER & KIDNEYS. ALCOHOL MAY ENHANCE TOXIC EFTS. (ING 17)  
RTECS #:9999999ZZ

Ingred Name:ING 16:FOR MORE SPECIFIC INFORMATION CONTACT NEHC .  
RTECS #:9999999ZZ

Ingred Name:RESP PROT:FACEPIECE & ORG VAP CARTRIDGE(S). 1250 PPM-ANY SUPPLIED-AIR RESP OPERATED IN CONTINUOUS FLOW MODE. (ING 19)  
RTECS #:9999999ZZ

Ingr  
ed Name:ING 18:2500 PPM-ANY AIR-PURIFYING FULL FACEPIECE RESP (GAS MASK) W/CHIN-STYLE OR FRONT- OR BACK-MOUNTED ORG VAP (ING 20)  
RTECS #:9999999ZZ

Ingred Name:ING 19:CANISTER; ANY SCBA W/FULL FACEPIECE; ANY SUPPLIED-AIR RESP W/FULL FACEPIECE. 8000 PPM-ANY SUPPLIED-AIR (ING 21)  
RTECS #:9999999ZZ

Ingred Name:ING 20:RESP W/FULL FACEPIECE & OPERATED IN PRESS-DEMAND/OTHER POS PRESS MODE. ESCAPE-ANY AIR-PURIFYING FULL (ING 22)  
RTECS #:9999999ZZ

Ingred Name:ING 21:FACEPIECE RESP

(GAS MASK) W/CHIN-STYLE OR FRONT- OR  
BACK-MOUNTED ORG VAP CANISTER; ANY APPROP ESCAPE-TYPE(ING 23)  
RTECS #:9999999ZZ

Ingred Name:ING 22:SELF-CONTAINED BREATHING APPARATUS.  
RTECS #:9999999ZZ

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

LD50 LC50 Mixture:LD50:(ORAL,RAT) 790 MG/KG.  
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:ACUTE:INHAL:NARC:MAY CAUSE MILD IRRIT  
OF R  
ESP TRACT; HDCH, VERTIGO; HIGHER CONCS-MARKED IRRIT, SORE  
THROAT, COUGH, NAUS, SHORTNESS OF BREATH, PULM INJURY & CNS DEPRESS  
W/HDCH, DIZZ, DULL & DROW. GIDD, PROSTRATION, NARCOS, ATAXIA &  
DEATH INSOME ANIMALS. SKIN:MAY CAUSE IRRIT; REDNESS, DRYNESS. MAY  
BE (EFTS OF OVEREXP)  
Explanation of Carcinogenicity:NOT RELEVANT  
Effects of Overexposure:HLTH HAZ:ABSORBED. RABBITS:SLIGHT TO MOD IRRIT.  
EYE:RABBIT:MOD TEMPORARY INJURY. INGEST:NARC. MAY CAUSE ABDOM PAIN,  
NAUS, VOMIT, DI  
ARR. HIGH DOSES-COMPLETE PARAL, CONSTRICTION OF  
PUPILS, REDUCTION IN CORNEAL, PUPILLARY & CILIARY REFLEXES,  
NYSTAGMUS, SALIVATION. REDUCTION OF BODY TEMP & RESP. DEEP NARCOS.  
MARKED (ING 8)  
Medical Cond Aggravated by Exposure:PERSONS W/CHRONIC RESPIRATORY, SKIN  
OR EYE DISEASES ARE AT INCREASED RISK FROM EXPOSURE.

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

First Aid:INGEST:CALL MD IMMED . INHAL:REMOVE TO FRESH AIR. SUPPORT  
BREATHING (GIVE O\*2/ARTF  
RESP) . EYES:IMMEDIATELY FLUSH W/POTABLE  
WATER FOR A MINIMUM OF 15 MINUTES, SEEK ASSISTANCE FROM MD (FP N ).  
SKIN:FLUSH W/COPIOUS AMOUNTS OF WATER. CALL MD . ANTIDOTE:NO  
SPECIFIC ANTIDOTE. TREAT SYMPTOMATICALLY & SUPPORTIVELY. FOR MORE  
SPECIFIC INFO REGARDING FIRST AID TREATMENT CONT NEHC .

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

Flash Point Method:CC  
Flash Point:99.0F,37.2C  
Lower Limits:1.4%  
Upper Limits:11.2%  
Extinguishing Media:DRY CHEMICAL, CARB

ON DIOXIDE, WATER SPRAY/ALCOHOL

RESIST FOAM. FOR LGR FIRES, USE WATER SPRAY, FOG/ALCOHOL RESIST FOAM.

Fire Fighting Procedures:USE NIOSH APPRVD SCBA & FULL PROT EQUIP . MOVE CNTNR FROM FIRE AREA IF YOU CAN DO IT W/OUT RISK. APPLY COOLING WATER TO SIDES OF CNTNRS THAT ARE (SUPDAT)

Unusual Fire/Explosion Hazard:DANGEROUS FIRE HAZ WHEN EXPOS TO HEAT/FLAME. VAPS ARE HVR/AIR & MAY TRAVEL A CONSIDERABLE DIST TO SOURCE OF IGNIT & FLASH BACK. VAP AIR MIXTS ARE EXPLO >99F.

=====

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

Spill Release Procedures:SHUT OFF IGNIT SOURCES. STOP LEAK IF YOU CAN DO IT W/OUT RISK. USE WATER SPRAY TO REDUCE VAPS. SM SPILLS:TAKE UP W/SAND OR OTHER ABSORB MATL & PLACE INTO CNTNRS FOR LATER DISP. LG SPILLS:DIKE FAR AHEA D OF SPILL FOR LATER DISP. NO SMOKING, (SUPP DATA)

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURER.

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

Handling and Storage Pr

Precautions:OBSERVE ALL FEDERAL, STATE & LOCAL REGULATIONS WHEN STORING THIS SUBSTANCE. STORE I/A/W 29 CFR 1910.106. STORE AWAY FROM INCOMPATIBLE SUBSTANCES.

Other Precautions:VAPS MAY BE EXPLO & POIS; DO NOT ALLOW UNNEC PERS IN AREA. DO NOT OVERHEAT CNTNRS; CNTNRS MAY VIOLENTLY RUPTURE & TRAVEL CONSIDERABLE DIST IN HEAT OF FIRE. SUBSTANCES W/LOW ELECTROCONDUCTIVITY, WHICH MAY BE IGNITED BY ELECTROSTATIC (SUPDAT)

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

=====

Respiratory Protection:SPECIFIC RESP SELECTED MUST BE BASED ON CONTAM LEVELS FOUND IN WORK PLACE, MUST NOT EXCEED WORKING LIMS OF RESP & BE NIOSH APPRVD: 1000 PPM-ANY POWERED AIR-PURIFYING RESP W/ORG VAP CARTRIDGE(S); ANY C HEM CARTRIDGE RESP W/FULL (ING 18)

Ventilation:PROVIDE LOCAL EXHAUST VENTILATION TO MEET PELS. VENTILATION EQUIPMENT MUST BE EXPLOSION-PROOF.

Protective Gloves:IMPERVIOUS GLOVES .

Eye Protection:ANSI APPROVED CHEM WORKERS GOGGS .

Other Protective Equi

ment:ANSI APPROVED EYE WASH FOUNTAIN & DELUGE  
SHOWER . APPROPRIATE PROTECTIVE (IMPERVIOUS) CLOTHING & EQUIPMENT.  
Work Hygienic Practices:NONE SPECIFIED BY MANUFACTURER.  
Supplemental Safety and Health  
SPILL PROC:FLAMES/FLARES IN HAZ AREA. KEEP UNNEC PEOPLE AWAY; ISOLATE  
HAZ AREA & DENY ENTRY. FOR MORE SPECIFIC INFO CONT NEHC . OTHER  
PREC:SPKS, SHOULD BE STORED IN CNTNRS WHICH MEET BONDING & G  
ROUNDING GUIDELINES SPECIFIED IN NFPA 77-1983, REC PRACTICE ON  
STATIC ELEC. FIRE FIG  
HT PROC:EXPOS TO FLAMES UNTIL(ING 2)

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

Boiling Pt:B.P. Text:243F,117C  
Melt/Freeze Pt:M.P/F.P Text:-128F,-89C  
Vapor Pres:6.5 @ 25C  
Vapor Density:2.55  
Spec Gravity:0.8098  
Evaporation Rate & Reference:0.5 (BUTYL ACETATE=1)  
Solubility in Water:7.7%  
Appearance and Odor:CLEAR, MOBILE, COLORLESS LIQ; STRONG, PUNGENT  
CHARACT ODOR SIMILAR TO FUSED OIL  
Percent Volatiles by Volume:100

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

Stability Indicator/Materials to Avoid:YES  
ALKALI METALS, ALUMINUM, STRONG OXIDIZERS, PLASTICS, RUBBER. FOR A  
COMPLETE LISTING OF MATLS TO AVOID CONT NEHC .  
Stability Condition to Avoid:AVOID CONTACT W/HEAT, SPARKS, FLAMES OR  
OTHER SOURCES OF IGNITION.  
Hazardous Decomposition Products:THERMAL DECOMPOSITION PRODUCTS MAY  
INCLUDE TOXIC OXIDES OF CARBON.

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

Waste Disposal Methods:OBSERVE ALL FEDERAL, STATE & LOCAL REGULATIONS  
WHEN DISPOSING OF THIS SUBSTANCE. DISPOSAL MUST BE I/A/W STANDARDS  
APPLICABLE TO GENERATORS OF HAZARDOUS WASTE, 40 CFR 262. EPA  
HAZARDOUS WASTE NUMBER D0 31.

Disclaimer (provided with this information by the compiling agencies):  
This information is formulated for use by elements of the Department  
of Defense. The United States of America in no manner whatsoever,  
expressly or implied, warrants this information to be accurate and  
disclaims all liability

ty for its use. Any person utilizing this document should seek competent professional advice to verify and assume responsibility for the suitability of this information to their particular situation.