

GENETRON HP62 (R-404A)

MATERIAL SAFETY DATA SHEET

01/11/00

MSDS PROVIDED BY:

STOODY INDUSTRIAL AND WELDING SUPPLY, INC.

3316 National Ave., San Diego, Ca. 92113

Phone: (619) 234-6750

MILITARY EMERGENCY RESPONSE NUMBER 1-800-851-8061

ALLIED SIGNAL -- GENETRON HP62 (R-404A)

MATERIAL SAFETY DATA SHEET

NSN:

Manufacturer's CAGE: 70308

Part No. Indicator: A

Part Number/Trade Name: GENETRON HP62 (R-404A)

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General Information

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Company's Name: ALLIED SIGNAL INC

Company's Street: 101 COLUMBIA RD

Company's P. O. Box: 1053

Company's City: MORRISTOWN

Company's State: NJ

Company's Country: US

Company's Zip Code: 07962

Company's Emerg Ph #: 201-455-2000

Company's Info Ph #: 201-455-4157

Record No. For Safety Entry: 001

Tot Safety Entries This Stk#: 001

Status: SMJ

Date MSDS Prepared: 01DEC93

Safety Data Review Date: 23OCT96

MSDS Serial Number: CCQBH

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Ingredients/Identity Information

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Proprietary: NO

Ingredient: PENTAFLUROETHANE

Ingredient Sequence Number: 01

NIOSH (RTECS) Number: 1009928PE

CAS Number: 354-33-6

OSHA PEL: N/K (FP N)

ACGIH TLV: N/K (FP N)

Proprietary: NO

Ingredient: ETHANE, 1,1,1-TRIFLUORO-; (GENETRON 143A)

Ingredient Sequence Number: 02

NIOSH (RTECS) Number: KJ4110000

CAS Number: 420-46-2

OSHA PEL: N/K (FP N)

ACGIH TLV: N/K (FP N)

Proprietary: NO

Ingredient: 1,1,1,2-TETRAFLUROETHANE

Ingredient Sequence Number: 03

NIOSH (RTECS) Number: 1008365TE

CAS Number: 811-97-2

OSHA PEL: N/K (FP N)

ACGIH TLV: N/K (FP N)

Proprietary: NO

Ingredient: FIRST AID PROC: SKIN: PROMPTLY FLUSH W/WATER UNTIL ALL CHEM IS

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REMOVED. IF THERE IS EVIDENCE OF FROSTBT, BATHE (ING 5)

Ingredient Sequence Number: 04
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: ING 4: (DO NOT RUB) W/LUKEWARM, NOT HOT, WATER. IN ABSENCE OF WATER, COVER W/SOFT CLEAN CLOTH/SIMILAR COVERING. (ING 6)

Ingredient Sequence Number: 05
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: ING 5: CALL MD. INGEST: INGEST IS UNLIKELY BECAUSE OF PHYSICAL PROPERTIES OF THE AZEOTROPE & IS NOT EXPECTED TO (ING 7)

Ingredient Sequence Number: 06
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: ING 6: BE HAZARDOUS. DO NOT INDUCE VOMITING UNLESS INSTRUCTED TO DO SO BY MD.

Ingredient Sequence Number: 07
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: OTHER PREC: STORAGE IN SUBSURFACE LOCATIONS SHOULD BE AVOIDED. CLOSE VALVE TIGHTLY AFTER USE AND WHEN EMPTY.

Ingredient Sequence Number: 08
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: OTHER PROT EQUIP: DURAFAB (2ND CHOICES: PVA/NEOPRENE), IF PRLNG/RPTD CONT W/LIQ IS ANTIC. IN CASE OF SPILLAGE/ (ING 10)

Ingredient Sequence Number: 09
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: ING 9: LEAKAGE/IF THERE IS THE PROBABILITY OF CONT W/LIQ PROD, IMPERVIOUS BOOTS & CLTHG SHOULD BE USED. HIGH (ING 11)

Ingredient Sequence Number: 10
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO

Ingredient: ING 10: DOSE-LEVEL WARNING SIGNS ARE REC FOR AREAS OF PRINCIPAL EXPOS. FOR TANKS CLEANING OPERATIONS, SEE OSHA REGS.

Ingredient Sequence Number: 11

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NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: HYGIENE PRACT: IF WET. ANY NON-IMPERVIOUS CLTHG SHOULD ALSO BE PROMPTLY REMOVED WHEN CONTAMINATED & WASHED BEFORE REUSE.
Ingredient Sequence Number: 12
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Proprietary: NO
Ingredient: WASTE DISP METH: DISPOSAL BY LICENSED WASTE DISPOSAL COMPANY MAY BE NECESSARY.
Ingredient Sequence Number: 13
NIOSH (RTECS) Number: 9999999ZZ
OSHA PEL: NOT APPLICABLE
ACGIH TLV: NOT APPLICABLE

Physical/Chemical Characteristics

Appearance And Odor: CLEAR COLORLESS LIQUID AND VAPOR WITH A FAINT ETHEREAL ODOR
Boiling Point: -54F,-48C
Vapor Pressure (MM Hg/70 F): 164.2@70F
Vapor Density (Air=1): 3.43
Percent Volatiles By Volume: 100

Fire and Explosion Hazard Data

Flash Point: N/A
Extinguishing Media: USE ANY STANDARD AGENT-CHOOSE THE ONE MOST APPROPRIATE FOR TYPE OF SURROUNDING FIRE (MATERIAL ITSELF IS NOT FLAMMABLE)
Special Fire Fighting Proc: WEAR NIOSH APPROVED SCBA & FULL PROTECTIVE EQUIPMENT (FP N). USE WATER SPRAY TO KEEP FIRE-EXPOSED CONTAINERS COOL.
Unusual Fire And Expl Hazrds: CONTACT W/CERTAIN REACTIVE METALS MAY RESULT IN FORMATION OF EXPLOSIVE OR EXOTHERMIC REACTIONS UNDER SPECIFIC CONDITIONS (E.G., VERY HIGH TEMPS &/APPROP PRESS).

Reactivity Data

Stability: YES
Cond To Avoid (Stability): DO NOT MIX W/OXYGEN/AIR ABOVE ATM PRESS. ANY SOURCE OF HIGH TEMP, SUCH AS LIGHTED CIGARETTES, FLAMES, HOT (SUP DAT)
Materials To Avoid: UNDER SPECIFIED CNDTNS: E.G., VERY HIGH TEMPS &/APPROP PRESS) FRESHLY ABRADED ALUMINUM SURF (MAY CAUSE STRONG (SUP DAT)
Hazardous Decomp Products: HALOGENS, HALOGEN ACIDS, AND POSSIBLY CARBONYL HALIDES. THESE ARE TOXIC AND CORROSIVE.
Hazardous Poly Occur: NO
Conditions To Avoid (Poly): NOT RELEVANT.

Health Hazard Data

LD50-LC50 Mixture: NONE SPECIFIED BY MANUFACTURER.
Route Of Entry - Inhalation: YES
Route Of Entry - Skin: YES
Route Of Entry - Ingestion: YES

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Health Haz Acute And Chronic: ACUTE: INHAL: HP62 IS OF LOW ORDER OF ACUTE TOX IN ANIMALS. WHEN OXYGEN LEVELS IN AIR ARE REDUCED TO 12-14% BY DISPLACEMENT, SYMPS OF ASPHY, LOSS OF COORD, INCRD PULSE RATE & DEEPER RESP WILL OCCUR. AT HIGH LEVELS, CARD ARRHY MAY OCCUR. INGEST: ALTHOUGH INGEST IS UNLIKELY, DISCOMFORT IN GI TRACT WOULD (EFTS OF OVEREXP)

Carcinogenicity - NTP: NO

Carcinogenicity - IARC: NO

Carcinogenicity - OSHA: NO

Explanation Carcinogenicity: NOT RELEVANT.

Signs/Symptoms Of Overexp: HLTH HAZ: RSLT FROM RAPID EVAP (BOILING) OF MATL, & CONSEQUENT EVOLUTION OF GAS. IN ADDN, SOME OF EFTS OF INHAL WOULD BE EXPECTED. SKIN: IRRIT WOULD RSLT FROM DEFAT ACTION ON TISS. LIQ CONT MAY CAUSE FROSTBITE. NECROSIS FROM FREEZING OF TISS COULD OCCUR. EYES: LIQ CONT CAN CAUSE IRRIT, WHICH MAY BE SEV. MIST (SUP DAT)

Med Cond Aggravated By Exp: NONE SPECIFIED BY MANUFACTURER.

Emergency/First Aid Proc: INHAL: IMMED REMOVE TO FRESH AIR. IF BRTHG HAS STOPPED, GIVE ARTF RESP. USE OXYGEN AS REQUIRED, PROVIDED A QUALIFIED IMMED FLUSH W/LGE AMTS OF WATER FOR AT LEAST 15 MIN (IN CASE OF FROSTBT, WATER SHOULD BE LUKEWARM, NOT HOT), LIFTING EYELIDS OCCAS TO FACILITATE IRRIGATION. GET MED ATTN IF SYMPS PERSIST. (ING 4)

Precautions for Safe Handling and Use

Steps If Matl Released/Spill: ALWAYS WEAR PERS PROT EQUIP. EVACUATE ALL UNPROT PERS. PROT PERS SHOULD REMOVE ANY FLAMES & SHUT OFF LEAK IF W/OUT RISK, & PROVIDE VENT. UNPROT PERS SHOULD NOT RETURN UNTIL AIR HAS BEEN TESTED & DETERMINED SAFE, INCL LOW-LYING AREAS.

Neutralizing Agent: NONE SPECIFIED BY MANUFACTURER.

Waste Disposal Method: DISP MUST COMPLY W/FED, STATE & LOC DISP/DISCHARGE LAWS. DISP OF WASTE HP62 MAY BE SUBJECT TO FED REGS. USERS SHOULD REVIEW THEIR OPERATIONS, THEN CONSULT W/APPROP REGULATORY AGENCIES BEFORE DISCHARGING/DISP OF WASTE MATL. (ING 13)

Precautions-Handling/Storing: AVOID BRTHG VAPS/LIQ CONT W/EYES, SKIN/CLTHG. DO NOT PUNCTURE/DROP CYLS/EXPOSE THEM TO OPEN FLAME/EXCESS HEAT. USE AUTHORIZED CYLINDERS ONLY.

Other Precautions: FOLLOW STD SFTY PREC FOR HNDLG & USE OF CYLS OF COMPRESSED GAS. STORE IN COOL, WELL-VENTD AREA OF LOW FIRE RISK & OUT OF DIRECT SUNLIGHT. PROTECT CYL & ITS FITTINGS FROM PHYSICAL DMG. DO NOT HEAT CONTR/STORE AT TEMP > 125F(51.7C). (ING 8)

Control Measures

Respiratory Protection: NONE NORM REQUIRED FOR ADEQUATELY VENTD WORK SITUATIONS. FOR ACCIDENTAL RELEASE, NON-VENTD SITUATIONS/RELEASE INTO CONFINED SPACES, USE NIOSH APPRVD SCBA/SUPPLIED AIR RESP. FOR ESCAPE: USE FORMER/NIOSH APPRVD GAS MASK W/ORG VAP CANISTER.

Ventilation: PROVIDE LOC EXHST AT FILLING ZONES & AREAS WHERE LEAKAGE IS PROBABLE. MECH (GEN) VENT MAY BE ADEQ FOR OTHER (SUP DAT)

Protective Gloves: IMPERVIOUS GLOVES.

Eye Protection: ANSI APPRVD CHEM WORKERS GOGGLES (FP N).

Other Protective Equipment: ANSI APPRVD EMER EYEWASH & DELUGE SHOWER (FP N). WEAR PROT IMPERVIOUS CLTHG W/OUTER LAYER OF MYLAR-COATED (ING 9)

Work Hygienic Practices: CONT LENSES SHOULD BE NOT WORN WHERE THERE IS REASONABLE PROBABILITY OF LIQ CONT. REMOVE & WASH CLTHG PROMPTLY, (ING 12)

Suppl. Safety & Health Data: CNDTNS TO AVOID: SPOTS, WELDING MAY YIELD TOX &/CORR DECOMP PRODS. MATLS TO AVOID: EXOTHERMIC RXN). CHEMICALLY ACTIVE METALS: SODIUM, POTASSIUM, CALCIUM, POWDERED ALUMINUM, MAGNESIUM & ZINC. EFTS OF OVEREXP: MAY IRRITATE. WARNING: INTENTIONAL MISUSE/OVEREXP MAY

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CAUSE INJURY & MAY BE FATAL. VENT: OPERATING & STOR AREAS.

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Transportation Data
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Disposal Data
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Label Data
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Label Required: YES

Technical Review Date: 23OCT96

Label Date: 23OCT96

Label Status: G

Common Name: GENETRON HP62 (R-404A)

Chronic Hazard: YES

Signal Word: WARNING!

Acute Health Hazard-Moderate: X

Contact Hazard-Moderate: X

Fire Hazard-None: X

Reactivity Hazard-None: X

Special Hazard Precautions: ACUTE: INHALATION: HP62 IS OF LOW ORDER OF ACUTE TOXICITY IN ANIMALS. WHEN OXYGEN LEVELS IN AIR ARE REDUCED TO 12-14% BY DISPLACEMENT, SYMPTOMS OF ASPHYXIATION, LOSS OF COORDINATION, INCREASED PULSE RATE AND DEEPER RESPIRATION WILL OCCUR. AT HIGH LEVELS, CARDIAC ARRHYTHMIA MAY OCCUR. INGESTION: DISCOMFORT IN GASTROINTESTINAL TRACT. NONE SPECIFIED BY MANUFACTURER.

Protect Eye: Y

Protect Skin: Y

Protect Respiratory: Y

Label Name: ALLIED SIGNAL INC

Label Street: 101 COLUMBIA RD

Label P.O. Box: 1053

Label City: MORRISTOWN

Label State: NJ

Label Zip Code: 07962

Label Country: US

Label Emergency Number: 201-455-2000