

MATERIAL SAFETY DATA SHEET: BLUE FORCE

DATE OF ISSUE: 05/31/2002 SUPERCEDES: 05/07/2002

Chemical Name & Synonyms: N/A
Trade Name & Synonyms: BLUE FORCE
Formula Mixture: X
Manufacturer's Name: AMINE/GLYCOL ETHER AQUEOUS SOLUTION
Address: CERTIFIED LABS, DIV. OF NCH CORP.
Product Code Number: 0567
Emergency Phone Number: 800-424-9300

SECTION II - HAZARDOUS INGREDIENTS
Table with columns: Chemical Name, CAS #, ILY, PEL, STEL, GASE #

SECTION III - PHYSICAL DATA
Table with columns: Property, Value

SECTION IV - FIRE AND EXPLOSION HAZARD
Table with columns: Property, Value

Health: 3 Flammability: 1 Instability: 1
Special:
Threshold Limit Values: NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

Effects of Overexposure: -Acute (Short Term Exposure)
SKIN CONTACT: CAUSES SEVERE IRRITATION SEEN AS REDNESS, ITCHING, AND A BURNING SENSATION. PROLONGED CONTACT CAN CAUSE TISSUE DESTRUCTION, ULCERATION AND BLEEDING. MAY BE ABSORBED THROUGH THE SKIN

WITH EFFECTS AS THOSE AS FOR INGESTION SEEN AS CENTRAL NERVOUS SYSTEM DEPRESSION, BLOOD ABNORMALITIES, KIDNEY AND LIVER DAMAGE AND EVEN DEATH. EYE CONTACT: CAUSES SEVERE IRRITATION SEEN AS TEARING, REDNESS, EXCESSIVE BLINKING, SWELLING AND A BURNING SENSATION. PROLONGED CONTACT CAN CAUSE CORNEAL DAMAGE, BURNS AND POSSIBLE BLINDNESS. INHALATION: CAUSES RESPIRATORY IRRITATION SEEN AS COUGHING AND SNEEZING. INHALATION OF VAPORS MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION SEEN AS HEADACHE, DIZZINESS, NAUSEA, DROWSINESS, WEAKNESS, APATHY, SLURRED SPEECH, STUTTERING AND A STAGGERING GAIT. INGESTION: CAUSES SEVERE IRRITATION TO THE MOUTH AND THROAT AND MAY CAUSE NAUSEA, VOMITING AND DIARRHEA. INGESTION OF LARGE AMOUNTS MAY CAUSE INCOORDINATION, NAUSEA, DIZZINESS, DROWSINESS, HEADACHES, MENTAL CONFUSION, SLURRED SPEECH AND STUPOR. MAY CAUSE BLOOD ABNORMALITIES, KIDNEY DAMAGE, LIVER DAMAGE AND COMA. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL

-Chronic (Long Term Exposure)
UPON REPEATED OR PROLONGED CONTACT, THIS PRODUCT MAY CAUSE SEVERE IRRITATION AND MAY BE ABSORBED IN TOXIC AMOUNTS. EXCESSIVE INHALATION OF VAPORS MAY CAUSE NASAL AND RESPIRATORY IRRITATION AND CENTRAL NERVOUS SYSTEM EFFECTS AND ALSO THE PRESENCE OF BLOOD IN THE URINE. INGESTION MAY BE HARMFUL WITH SYMPTOMS SIMILAR TO INTOXICATION, THE SEVERITY OF WHICH DEPENDS ON THE AMOUNT INGESTED. ABSORPTION THROUGH THE SKIN OR LUNGS FROM REPEATED/PROLONGED SKIN CONTACT OR INHALATION MAY CAUSE LIVER ABNORMALITIES, KIDNEY OR LUNG DAMAGE, SPLEEN DAMAGE, BLOOD ABNORMALITIES, WEIGHT LOSS, ANOREXIA AND TESTIS DAMAGE. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA AND DERMATITIS AND PRE-EXISTING DISEASES AND DISORDERS OF THE KIDNEYS, LIVER, LUNGS, SPLEEN, BLOOD AND TESTES. TARGET ORGANS: LIVER, KIDNEYS, LUNGS, BLOOD, SPLEEN AND TESTES.

Primary Routes of Entry: Inhalation: X Ingestion: Absorption: X
Emergency and First Aid Procedures:
- Inhalation: REMOVE FROM THE AREA TO FRESH AIR. SEEK MEDICAL ATTENTION IF RESPIRATORY IRRITATION DEVELOPS OR IF BREATHING BECOMES DIFFICULT.
- Eye Contact: IMMEDIATELY RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING FOR AT LEAST 15 MINUTES. HOLD THE EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYES AND LIDS WITH WATER. GET IMMEDIATE MEDICAL ATTENTION.

-Skin Contact: IMMEDIATELY REMOVE CONTAMINATED CLOTHING AND SHOES. WASH AFFECTED AREAS THOROUGHLY WITH LARGE AMOUNTS OF SOAP AND WATER FOR AT LEAST 15 MINUTES. GET IMMEDIATE MEDICAL ATTENTION. DISCARD OR CLEAN CLOTHING AND SHOES.
- Ingestion: GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

-Notes to Physicians: ORGANIC ABNORMALITIES RESULTING FROM OVEREXPOSURE TO ETHYLENE GLYCOL MONOBUTYL ETHER BY ANY ROUTE LIKELY WOULD BE AN ABNORMAL BLOOD PICTURE CHARACTERIZED BY ERYTHROPEINIA, RETICULOCYTOSIS, GRANULOCYTOSIS AND LEUKOCYTOSIS. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. DEPENDING ON THE AMOUNT INGESTED AND RETAINED AS WELL AS THE TOXICITY OF THE PRODUCT, GASTRIC LAVAGE SHOULD BE CONSIDERED. KEEP PATIENT'S HEAD BELOW HIPS TO PREVENT PULMONARY ASPIRATION. IF COMATOSE, A CUFFED ENDOTRACHEAL TUBE WILL PREVENT ASPIRATION.

SECTION VI - TOXICITY INFORMATION
Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:
IARC: Yes NTP: No OSHA: No ACGIH: No OTHER: No
SAFROL
SKN-RBT SDT: 500MG/24H MOD 3.
SKN-RBT LD50: > 5GM/KG 3.
ORL-RAT LD50: 1950 MG/KG 3.
ORL-RBT LDLo: 1 GM/KG 3.
ORL-RAT TDLo: 200 G/KG/94W-C 3.
CARCINOGENIC DATA: PRODUCT CONTAINS <1% SAFROL WHICH HAS BEEN FOUND TO BE A CARCINOGEN IN ANIMALS. ITS EFFECT ON HUMANS IS UNKNOWN ALTHOUGH SAFROL HAS BEEN PROHIBITED FOR USE IN HUMAN FOODS BY THE FDA. 4.
MONOETHANOLAMINE

ORL-RAT LD50: 1720 MG/KG 3.
 SKN-RBT LD50: 1 ML/KG 3.
 SKN-RBT SDI: 505 MG MODERATE 3.
 SKN-RBT LD50: 505 MG MODERATE 3.
 EYE-RBT SDI: 250 UG SEVERE 4.
 HL-MUS LD50: > 2420 MG/M/324H 3.
 ORL-RAT LDLo: 115 G/KG/90D-1; CHANGES IN LIVER AND BLADDER WEIGHTS 3.
 HL-RAT FEMALE TCOL: 25 PPM/6H 6-15D AFTER CONCEPTION; UROGENITAL ABNORMALITIES 3.

ETHYLENE GLYCOL MONOBUTYL ETHER

SKN-RBT (OPEN): 500 MG MILD 3.
 EYE-RBT SDI: 100 MG SEVERE 3.
 ORL-RAT LD50: 470 MG/KG 3.
 SKN-RBT LD50: 220 MG/KG 3.
 HL-RAT LD50: 420 PPM/6H 3.
 HL-RAT TCOL: 100 PPM/6H (6-18D PREG); TER 3.
 ALTHOUGH THE LISTED EFFECTS WERE OBSERVED IN LABORATORY ANIMALS UPON INHALATION OF THIS MATERIAL, STUDIES HAVE ALSO SUGGESTED THAT THERE IS LITTLE POSSIBILITY OF SIGNIFICANT ADVERSE HEALTH EFFECTS IN HUMANS EXPOSED IN THE WORKPLACE TO LEVELS THAT COMPLY WITH THE OSHA PERMISSIBLE EXPOSURE LIMIT OF 25 PPM, AT 100 PPM SOME SUBJECTIVE COMPLAINTS WERE SEEN IN SENSITIVE INDIVIDUALS, AND EVEN AT 200 PPM THE PRIMARY COMPLAINT WAS IRRITATION. THIS APPEARS TO BE ONE OF THE FEW MATERIALS TO WHICH THE HUMAN IS MORE RESISTANT THAN THE USUAL EXPERIMENTAL ANIMALS 5.
 INHALATION EXPOSURE TO ETHYLENE GLYCOL MONOBUTYL ETHER PRODUCED SOME EVIDENCE OF CANCER IN MICE IN A LONG-TERM BIOASSAY, NO EVIDENCE OF CANCER IN MALE RATS AND EQUIVOCAL EVIDENCE IN FEMALE RATS, 6.

NONYL-PHENOL POLYETHYLENE GLYCOL ETHER

ORL-RAT LD50: 1.3 G/KG 4.
 SKN-RBT LD50: 2 ML/KG/24HR OCCLUDED 4.
 SKN-RBT: NO IRRITATION (UNCOVERED) 4.
 EYE-RBT: 0.5 ML @ 5% DILUTION (SEVERE CORNEAL INJURY) 4.
 CONTAINS SURFACTANT WHICH, BASED ON STUDIES WITH RABBITS INVOLVING THE SUSTAINED OCCLUDED CONTACT OF THE UNDILUTED SURFACTANT WITH SKIN, INDICATE THAT SUCH CONDITIONS MAY RESULT IN THE DEVELOPMENT OF INFLAMMATORY CHANGES IN THE LUNG. SEVERAL STUDIES HAVE RESULTED IN SLIGHTLY INCREASED KIDNEY WEIGHTS IN MALE RATS CONTINUOUSLY EXPOSED TO NONYL-PHENOL AT DIETARY CONCENTRATIONS OF 200 PPM OR GREATER. TUBULAR DEGENERATION WAS OBSERVED AT 850 AND 2000 PPM 4.
 VOC CONTENT: 20.4% OR 1.7 LB/GAL

SECTION VII - REACTIVITY DATA

Stability: Stable-X Unstable:
 Conditions to Avoid: NONE KNOWN.
 Incompatibility (Materials to Avoid): STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH AND CONCENTRATED HYDROGEN PEROXIDE, ACIDS, ALKALIES, ALDEHYDES, KETONES, ACRYLATES, ORGANIC ANHYDRIDES AND ORGANIC HALIDES, MATERIALS REACTIVE WITH HYDROXYL COMPOUNDS.
 Hazardous Decomposition Products: OXIDES OF CARBON AND NITROGEN AND OTHER UNIDENTIFIED ORGANIC COMPOUNDS.
 Hazardous Polymerization: May Occur Will Not Occur-X
 Conditions to Avoid: NONE KNOWN.

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, DIRTY 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: NONE KNOWN.

SECTION IX - SPECIAL PROTECTION INFORMATION

http://nirs.nich.com/MSDSViewLink.asp?UTD=KGA VI AK & PC=0567&COV=CI & GD=0567... 06/21/2005

Required Ventilation: LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM VAPORS.
 Respiratory Protection: ANIOSH/MSHA APPROVED RESPIRATOR FOR EXPOSURE ABOVE THE ACGIH TLV OR OSHA PEL OR WHERE MISTING EXISTS.
 Glove Protection: NEOPRENE OR NITRILE RUBBER GLOVES SHOULD BE WORN.
 Eye Protection: CHEMICAL GOGGLES SHOULD BE WORN WHEN HANDLING.
 Other Protection: WEAR PROTECTIVE CLOTHING WHEN HANDLING. A SAFETY SHOWER AND AN EYEWASH STATION SHOULD BE AVAILABLE.

SECTION X - STORAGE AND HANDLING INFORMATION

Storage Temperature: Minimum Temperature: 35°F Maximum Temperature: 120°F
 Indoor: X Outdoor: Heated: Refrigerated:
 Precautions to be taken in Handling and Storing: ALWAYS STORE MATERIAL IN ITS ORIGINAL CONTAINER. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. KEEP FROM FREEZING. IF PRODUCT FREEZES ALLOW IT TO SLOWLY WARM TO ROOM TEMPERATURE AND STIR THOROUGHLY BEFORE USING.

Other Precautions: TRACES OF FREE ETHYLENE OXIDE MAY BE PRESENT IN THIS PRODUCT AND COULD ACCUMULATE IN THE HEADSPACE OF STORAGE AND TRANSPORT VESSELS. KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT.

SECTION XI - REGULATORY INFORMATION

Chemical Name	CAS Number	Upper % Limit
GLYCOL ETHERS	N/A	20
SAFROL	94-59-7	1

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. REGISTER OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CONFIDOC, 2001.
 4. VENDORS MSDS.
 5. DISSOLVING THE MYTHS ABOUT ESBE AND HEALTH, OMA, GLYCOL ETHER PANEL, 1989.
 6. CHEMICAL MANUFACTURERS ASSOCIATION, NOVEMBER 9, 1998.
 ALL COMPONENTS IN THIS PRODUCT CAN BE FOUND IN THE CURRENT TSCA INVENTORY.

COMBUSTIBLE, CORROSIVE CARC, CARCINOGENIC, TOXIC, OXIC, NA, NOT APPLICABLE, NE, NOT ESTABLISHED, COC, CLEVELAND OPEN CUP, PMCC, PENSKY-MARTIN CLOSED CUP, TCC, TAGIABUE CLOSED CUP, ELA, OVER EXPLOSION LIMIT, UEL, UPPER EXPLOSION LIMIT, NEPA, NATIONAL FIRE PROTECTION ASSOCIATION, LARC, INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, INTERNATIONAL TOXICOLOGY PROGRAM, OSHA, OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH, AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV, THRESHOLD LIMIT VALUE, PEL, PERMISSIBLE EXPOSURE LIMIT, STEL, SHORT-TERM EXPOSURE LIMIT, MLD, MILD, MODERATE, SEVERE, MUTAGENIC, ASPHYX, ASPHYXANT, PNO3, PARTICULATES (INSOLUBLE) NOT OTHERWISE SPECIFIED, SDI, STANDARD DRAZE TEST, ORL, ORAL, HNM, HUMAN, INHALATION

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