

5060-006-310

**HEALTH AND SAFETY PLAN  
FOR BUILDINGS 32 AND 35 WASTE  
SAMPLING AND ANALYSIS  
INVESTIGATION AT  
NAVAL UNDERWATER SYSTEMS  
CENTER (NUSC)  
GOULD ISLAND ANNEX,  
NEWPORT, RHODE ISLAND**

**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN)  
PROGRAM**

**CONTRACT NO. N62472-90-D-1298**

**SEPTEMBER 27, 1991**



**HALLIBURTON NUS**  
*Environmental Corporation*

**Donohue** ENGINEERS  
ARCHITECTS  
SCIENTISTS

**ENSR**™

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FOR BUILDINGS 32 AND 35,  
WASTE SAMPLING AND ANALYSIS INVESTIGATIONS,  
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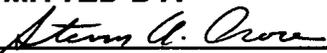
**COMPREHENSIVE LONG-TERM  
ENVIRONMENTAL ACTION NAVY (CLEAN) PROGRAM**

**Submitted to:  
Northern Division  
Environmental Branch, Code 14  
Naval Facilities Engineering Command  
Building 77-L, U.S. Naval Base  
Philadelphia, PA 19112-5094**

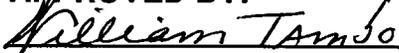
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Contract Task Order Number 12**

**SEPTEMBER 27, 1991**

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Attachment E Subcontractor Medical Approval and Compliance Forms

## 1.0 INTRODUCTION

### 1.1 HASP REQUIREMENTS

This site-specific Health and Safety Plan (HASP) has been developed by ENSR to establish the health and safety procedures required to minimize any potential risk to personnel who will perform activities related to the proposed waste sampling and analysis investigation at Buildings 32 and 35 at the Naval Underwater Systems Center (NUSC) Gould Island Annex located in Newport, Rhode Island. The provisions of this plan apply to all ENSR personnel and ENSR subcontractor personnel who will potentially be exposed to safety and/or health hazards related to activities described in Section 3.0 of this document.

Although the proposed activities at this site are not covered by the standard, this HASP has been written to comply with the requirements of the Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120), as well as guidance set forth in the CLEAN Health and Safety Management Plan (HSMP), developed by HALLIBURTON NUS (dated August 1991). All activities covered by this HASP must be conducted in complete compliance with this HASP and with all applicable federal, state and local health and safety regulations. Personnel covered by this HASP who cannot or will not comply will be excluded from site activities.

Subcontractor personnel who choose to follow ENSR's plan must distribute a copy of this plan to each employee who will work at the site. Each employee must sign a copy of the attached Health and Safety Plan sign-off sheet (see Attachment A). Subcontractors to ENSR may develop their own HASP related to their specific on-site activities. This HASP must minimally be as protective as ENSR's and must be submitted for ENSR review at least two weeks prior to the start of on-site activities.

Please note that this HASP only pertains to the proposed sampling tasks. Tasks covered by this HASP are listed in Section 3.0 of this document. A task specific HASP will be developed at a later date for any other subsequent investigative activities at the Site.

The procedures in this HASP have been developed based on current knowledge regarding the specific chemical and physical hazards which are currently known or anticipated for the operations which are to be conducted at this Site. This information was developed as a result of a site visit by ENSR on August 6, 1991. Should additional information become available regarding site hazards or should operations at the site change, it may be necessary to modify this HASP. All proposed modifications to this HASP must be reviewed and approved by the ENSR Regional Health and Safety Manager (RHSM) and Project Manager (PM) before such modifications are implemented.

Any significant modifications must be incorporated into the written document as addenda and the HASP must be reissued. The ENSR PM will ensure that all personnel covered by this HASP receive copies of all issued addenda. Sign-off forms will accompany each addendum and must be signed by all personnel covered by the addendum. Sign-off forms will be submitted to the ENSR PM. The HASP addenda should be distributed during the daily safety meeting so that they can be reviewed and discussed. Attendance forms will be collected during the meeting to document the review of new information.

## **1.2 RESPONSIBILITIES**

Responsibility for the implementation of health and safety at the Site is an integrated effort among the ENSR Project Manager (PM), the Regional Health and Safety Manager (RHSM), the designated site safety officer (SSO), the subcontractors and field staff.

The RHSM (Kathleen Harvey) is responsible for developing, interpreting and modifying, when necessary, the site specific Health and Safety Plan. When required, the RHSM is responsible for auditing the project to verify compliance with the HASP.

The PM (Steve Croce) and SSO (to be appointed by the PM prior to beginning on-site activities) are responsible for implementing the requirements of the HASP. The PM is required to inform the RHSM of project developments and maintain an open line of communication with the RHSM. The PM is responsible for distributing a copy of this HASP to the subcontractor and to all members of the ENSR Field Team. The PM is responsible for collecting the training and medical documentation from ENSR subcontractors (see Section 9 of this document) as well as the HASP sign-off sheets from ENSR and ENSR subcontractor employees.

The SSO is responsible for directing and implementing the HASP in the field and ensuring that all site personnel follow the requirements of the HASP. In consultation with the RHSM, the SSO has the authority to correct all health and safety deficiencies and to immediately stop work in cases where imminent danger is perceived. The SSO is responsible for initiating emergency response and coordinating site evacuation when necessary. An alternate SSO will be named at the commencement of sampling activities. The alternate SSO will assume the responsibilities of the SSO in his/her absence.

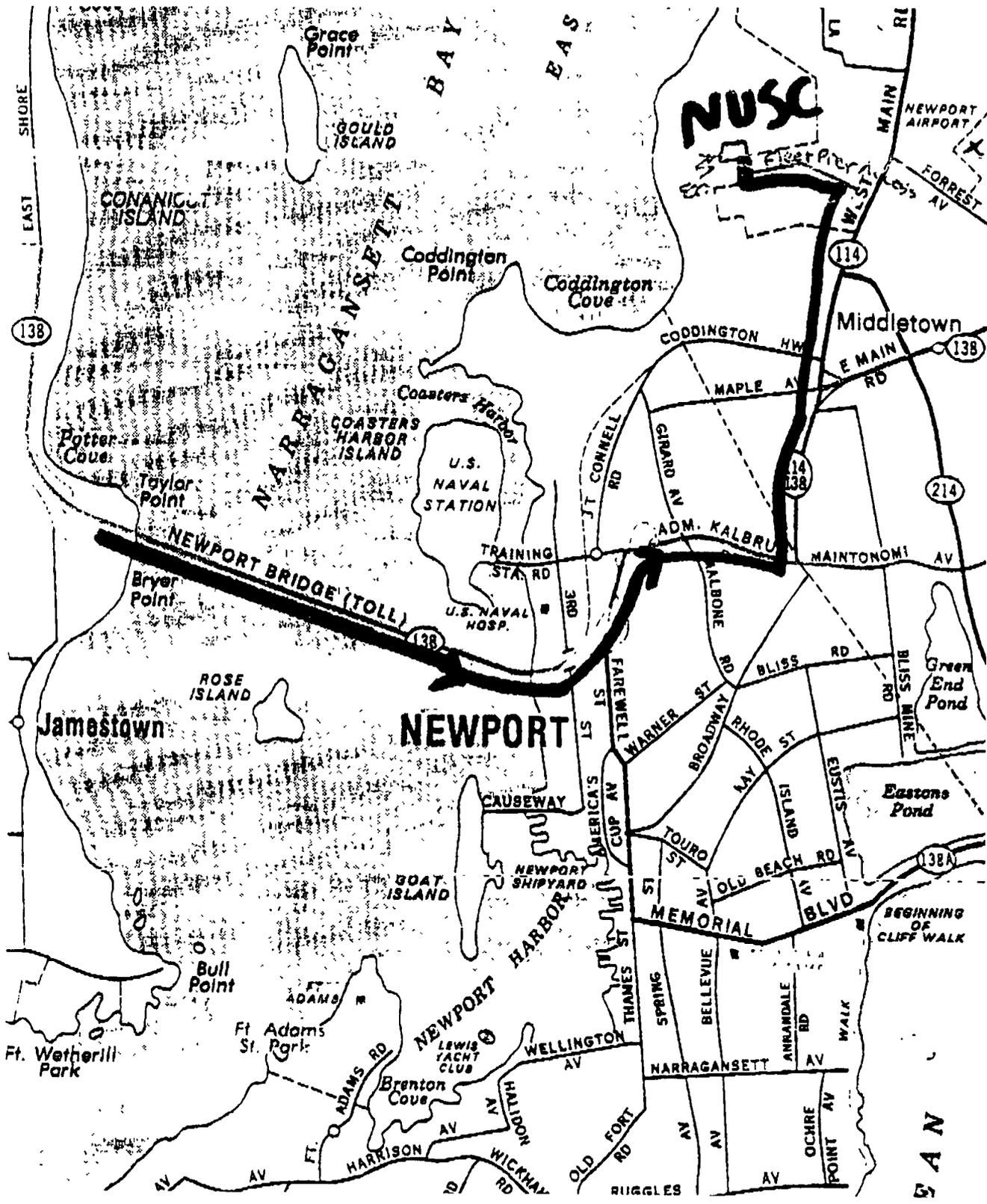
## 2.0 SITE DESCRIPTION AND HISTORY

Gould Island is located in Narragansett Bay off of Newport, Rhode Island (see Figure 2-1). The island has been used for various purposes for several decades by the Naval Underwater Systems Center (NUSC) and the Naval Education and Training Center (NETC). Buildings 32 and 35 (see Figure 2-2), which are the focus of this project, were used by NUSC as a torpedo assembly shop and test facility during the 1940's.

The buildings have been abandoned for many years and have deteriorated. Some areas of Building 35 are structurally unsound and will not be investigated at this time. Specifically, the portion of Building 35 (inactive) known as the "tunnel" and is labelled on Plate 2 of the Field Sampling and Analysis Plan for the NUSC facility, will not be entered during this investigation. Most windows have been broken allowing weather and birds to enter the buildings. The working areas are littered with bird droppings, dead birds, asbestos insulation, broken glass and debris piles. Some of the debris piles contain small 5 gallon cans and other assorted containers. Several 55 gallon drums were identified within the buildings. For the most part, the drums have been cordoned off and are surrounded by absorbent pillows and booms. Various inactive electrical equipment is also present throughout the two buildings.

An abandoned electroplating shop exists in the southwest corner of Building 32. During the site visit, it was noted that the plating tanks are empty. No bulk plating materials, such as cyanide salts or acids, were found within the plating shop. Two degreasing tanks are also present in this building. They too are empty and no bulk storage containers for degreasing solvents were found. The floor pits and trenches within both buildings contain liquids (apparently water) that may contain hazardous constituents.

The wood flooring in Building 32 may be contaminated. The flooring, which is underlain by concrete, is buckled in most locations. Due to the deterioration of the building many of the floor surfaces in the areas off of the main work area are flooded. There are liquid, semi-solid, and solid materials that will be sampled and field tested for waste disposal characterization, as well as, collection of composited waste category samples for waste disposal analyses at an off-site laboratory.



**FIGURE 2-1**  
 Gould Island, Newport, Rhode Island  
 Location Map



### 3.0 SCOPE OF WORK

ENSR has been retained to conduct an investigation to locate, inventory and sample unknown and potentially hazardous materials in and around Buildings 32 and 35 at the NUSC Gould Island Annex. The primary objective of this investigation is to determine the presence of hazardous materials in and around Buildings 32 and 35 in order for the Navy to remove and dispose of these materials off-site prior to demolition of the buildings. The focus during this entire investigation will be to identify and classify any materials and wastes on site contained in drums, pails, machinery, pits or other container or device.

In Building 35, the potentially hazardous materials and/or their residues are likely to be located in:

- metal and plastic containers with capacities ranging from <1 gallon to 55 gallons,
- electrical equipment lubricant and coolant reservoirs,
- oil/water separator unit,
- torpedo test firing tubes,
- vertical steel pressure tank,
- loose solid materials inside broken bags or in piles on the floor,
- numerous small motor and pump oil reservoirs, and
- subsurface piping trenches.

In Building 32, the potentially hazardous materials are likely located in:

- metal and plastic containers with capacities ranging from <1 gallon to 55 gallons,
- electrical equipment lubricant and coolant reservoirs,
- loose solid materials in broken bags and fiber containers,
- subsurface piping trenches,
- two solvent degreasing tanks,
- former plating and stripping tanks, and
- saturated wooden flooring.

ENSR will not sample any asbestos containing pipe insulation, floor drains or manholes, the interior or exterior of any overhead piping, rooms with collapsed floors, septic tanks and leach fields or any of the exterior areas of concern identified in ENSR's proposal.

## 4.0 HAZARD ASSESSMENT

The following chemical and physical hazard assessment applies only to the proposed activities covered by this HASP.

### 4.1 CONTAMINANTS OF CONCERN

The following list of chemical contaminants of concern has been developed for the proposed activities. This list is based on currently available knowledge obtained during ENSR's site visit and NUSC information regarding former degreasing and electroplating processes. This HASP will be amended should additional information become available concerning the types of contamination present or suspected of being present at this site.

- Chlorinated Organic Compounds (Former Degreasing Area)
- Oils, Greases, Lubricants (Drum and Container Contents)
- Cyanide Residues (Former Plating Area)
- Polychlorinated Biphenyls (Electrical Equipment)
- Asbestos (Floor Debris)
- Bird Droppings (Floor Debris)

The organic vapors monitoring conducted by ENSR during the site visit did not indicate the presence of organic vapors above background concentrations in either of the buildings. This monitoring was conducted in the breathing zone in the open workshops and rooms in both buildings.

### 4.2 CHEMICAL HAZARDS

Based on ENSR's review of existing NUSC information on the previous operations conducted at the Gould Island Annex, the waste types generated from electroplating operations included: muriatic acid, chromic acid, copper cyanide, sodium cyanide, sodium hydroxide, nickel sulfate, Anodex cleaner, and degreasing solvents.

These wastes and any containerized wastes recently stored or abandoned in Buildings 32 and 35 were not tested until July and August 1991 by NUSC personnel. The waste samples were tested for hazardous waste characteristics (i.e., corrosivity, reactivity and ignitability) and leachability by the TCLP (Toxicity Characteristic Leaching Procedure). The laboratory test results indicated some wastes with low flashpoints (e.g., < 140°F), and waste materials that leached heavy metals above the TCLP Regulatory Levels (i.e., barium, cadmium, and lead).

The locations of these wastes and a summary listing of test results are documented in Section 3.0 and on Plates 1 and 2 of the Field Sampling and Analysis Plan for the NUSC facility.

#### **4.2.1 Volatile Organic Compounds**

It is likely, given the time of operation (1940's) that the degreasers contained chlorinated solvents. However, since the degreasing tanks are empty, the likelihood of exposure to these toxic materials is minimal. If anything, exposure would be via the dermal route during contact with tank residues while sampling. Even if present as a contaminant in the water that is present in the surrounding trenches and floor pits, the main route of exposure is direct dermal contact with the material.

Since toluene and xylene are used as thinners in paints, it is likely that these volatile organics will be encountered during the opening and sampling of many of the smaller, 5 gallon containers which bear paint labels. There is a potential for inhaling toluene or xylene vapors, however the duration of the exposure will be minimal due to the short time required for sample collection.

Toluene and xylene are aromatic hydrocarbons. The OSHA permissible exposure limit (PEL) for each of these compounds is 100 parts per million (ppm) as an 8 hour time weighted average (TWA). Acute overexposure to the vapors of these compounds may result in headache, dizziness, and drunken-like behaviors.

#### **4.2.2 Oils, Greases and Lubricants**

During ENSR's site visit, Navy representatives were sampling several small containers and a 55 gallon drum. The materials being sampled were black, viscous, oily-type liquids. Several of the containers found lying in the debris piles had oil stains on their exteriors.

Currently, there are no federal exposure limits set for this category of materials. Direct dermal contact with the materials is the likely route of exposure during sampling. Prolonged contact with oils and greases may result in local dermatitis.

#### **4.2.3 Total Cyanides**

The cyanide salts typically used in an electroplating process are sodium and potassium cyanide. Dermal contact with residues in the plating baths is the likely route of exposure during sampling activities. Cyanide compounds may be absorbed through the skin. The dust of cyanide salts (dried residues in this case) are irritating to the eyes and in the presence of tears may result in the classic symptoms of cyanide poisoning. The dusts may also cause irritation of the nose and skin.

#### **4.2.4 Polychlorinated Biphenyls**

The electrical equipment present within the buildings may contain fluids or oils that are contaminated with polychlorinated biphenyls (PCB). Since the vapor pressures of the various types of PCB's are very low (0.001 mm Hg), the sampling of any such fluids does not pose an inhalation hazard unless the source is heated or generates an airborne mist. Again, the potential for exposure to the material is direct, dermal contact with the liquid or a piece of equipment contaminated with PCB containing oils. Prolonged skin contact with PCB's may result in a dermatitis known as chloracne.

#### **4.2.5 Asbestos**

Much of the asbestos containing pipe insulation has fallen from the overhead steam lines. The floors in both buildings are covered with asbestos debris. Although much of the debris has been soaked with rainwater and is almost in a slurry form, there is still a great potential for the debris to become airborne when it is walked on. In some instances during this project, it may be necessary to disturb debris even further in an effort to identify and inventory all the containers and drums within the buildings. Depending on the dose and the length of time exposed, the inhalation of asbestos fibers can cause 1) asbestosis; a chronic, progressive lung disease resulting in the scarring of the lung tissue restricting pulmonary function; 2) mesothelioma; a rare form of cancer of the pleural membrane of the lung and/or the peritoneal membrane of the abdomen; and 3) lung cancer, especially if a history of cigarette smoking is known.

#### **4.2.6 Bird Excrement**

In addition to asbestos debris, the floor is also covered with bird excrement and dead birds. There are several diseases associated with the inhalation of the dried droppings of birds.

Ornithosis is a bacterial disease caused by an organism present in the droppings, and feathers of infected birds. Pigeons serve as the primary reservoir for the disease. Ornithosis may be contracted by man by inhalation of the dried discharges and droppings of the birds.

Following a 7-14 day incubation period, infection becomes apparent. Victims most often complain of headache and soon become febrile with a characteristically relatively slow pulse. Other symptoms include lethargy, insomnia, photophobia, nausea, vomiting and diarrhea.

Histoplasmosis is an opportunistic primary pulmonary infection caused by a fungus which grows on soils enriched by bat, chicken or other bird excrement. Occasionally cases of histoplasmosis occur among construction workers resulting from exposure when a building which pigeons have adopted as a nesting or roosting site is demolished.

Chronic localized histoplasmosis takes two primary clinical forms:

- a pulmonary infection resembling tuberculosis, and
- mucocutaneous ulcers of the mouth, tongue, pharynx, gums

Adult histoplasmosis shows a marked predilection for men. Histoplasmosis of the lips, nose, mouth and larynx occurs almost exclusively in adults and is the initial manifestation in about one third of all fatal cases.

The incidence of these diseases is limited by the control of exposures and dust control methods (watering or oiling of the surfaces). Use of respirators is recommended in areas which are known to be contaminated when exposure cannot be prevented.

#### **4.2.7 Other Chemical Hazards**

ENSR plans to use dedicated sampling tubes for each container and drum. However, other sampling requirements of this program may require that the sampling tool be decontaminated to prevent cross-contamination. Methanol will be used as the decontamination solution. Nitric acid will be used when samples are to be submitted for metals analysis. In accordance with OSHA's Hazard Communication Standard, material safety data sheets for methanol and nitric acid are attached to this HASP (see Attachment B) and will be maintained on-site during sampling activities. All containers brought on-site will be properly labeled.

### **4.3 PHYSICAL HAZARDS**

#### **4.3.1 Heat Stress**

Sweating does not cool the body unless moisture is removed from the skin by evaporation. The wearing of personal protective equipment (PPE) reduces the body's ability to eliminate large quantities of heat because the evaporation of sweat is decreased. The body's efforts to maintain an acceptable temperature become impaired.

Heat related problems include heat fatigue, heat rash, fainting, heat cramps, heat exhaustion and heat stroke. Heat rash occurs because sweat isn't evaporating, making the skin wet most of the time. Standing erect and immobile in the heat allows blood to pool to lower parts of the body. As a result, blood does not return to the heart to be pumped to the brain. Fainting may then occur.

Heat cramps are painful spasms of the muscles due to excessive salt loss associated with profuse sweating. The loss of large amounts of fluid and excessive loss of salt results in heat

exhaustion. The skin will be clammy and moist and persons exhibit extreme wetness, giddiness, nausea and headache.

Heat stroke occurs when the body's temperature regulatory system has failed. Skin is hot, dry, red and spotted. The affected person may be mentally confused and delirious. Convulsions could occur. **EARLY RECOGNITION AND TREATMENT OF HEAT STROKE ARE THE ONLY MEANS OF PREVENTING BRAIN DAMAGE OR DEATH.** A person exhibiting signs of heat stroke should be removed from the work area to a shaded area. The person should be soaked with water to promote evaporation. Fan the person's body to increase cooling.

Increased body temperature and physical discomfort also promote irritability and a decreased attention to the performance of hazardous tasks.

Early Symptoms of Heat-Related Health Problems:

- decline in task performance
- incoordination
- decline in alertness
- unsteady walk
- excessive fatigue
- vigilance
- muscle cramps
- dizziness

Susceptibility to Heat Stress Increases due to:

- lack of physical fitness
- lack of acclimation
- increased age
- dehydration
- obesity
- drug or alcohol use
- sunburn
- infection

People unaccustomed to heat are particularly susceptible to heat fatigue. First timers in PPE need to gradually adjust to the heat.

Measures to Avoid Heat Stress:

- Establish work-rest cycles (short and frequent are more beneficial than long and seldom).
- Identify a shaded, cool rest area.
- Rotate personnel, alternative job functions.
- Water intake should be equal to the sweat produced. Most workers exposed to hot conditions drink less fluids than needed because of an insufficient thirst. **DO NOT DEPEND ON THIRST TO SIGNAL WHEN AND HOW MUCH TO DRINK.** For an 8-hour work day, 50 ounces of fluids should be drunk.
- Eat lightly salted foods or drink salted drinks such as Gatorade to replace lost salt.

- Save most strenuous tasks for non-peak heat hours such as the early morning or at night.
- Avoid alcohol during prolonged periods of heat. Alcohol will cause additional dehydration.
- Avoid double shifts and/or overtime.

The implementation and enforcement of the above mentioned measures will be the joint responsibility of the project manager, on-site field coordinator, and site safety officer. **Potable water and/or fruit juice will be available each day for the Field Team. Please note that there is no potable water supply available on the island.**

Site personnel should monitor their heart rate as an indicator of heat strain by the following method:

Radial pulse rates should be checked by using fore and middle fingers and applying light pressure to the pulse in the wrist for one minute at the beginning of each rest cycle. If the pulse rate exceeds 110 beats/minute, the next work cycle will be shortened by one-third and the rest period will be kept the same. If, after the next rest period, the pulse rate still exceeds 110 beats/minute, the work cycle will be shortened again by one-third.

#### **4.3.2 Slip, Trip and Fall Hazards**

Employees should be aware of slip, trip and fall hazards on site.

The presence of bird droppings, asbestos insulation and water on the floors present slip hazards to the sampling team. The best way to avoid slips is to walk-around existing contamination and puddles.

The wooden floor, which is underlain by concrete, in Building 32 is buckled and poses a significant tripping hazard. Personnel should avoid walking over or on top of buckled flooring. Open trenches and floor pits pose another set of hazards to the Field Team. Colored tape will be used to mark the perimeters of the open pits and trenches.

One area of Building 35 is structurally unsound. The back wall is missing and the ceiling has caved in. ENSR employees will not enter this area due to its unstable nature and the potential for further wall and ceiling collapse.

Personnel shall follow the safe work practices, as described in Section 8.0 of the HASP and will always honor the buddy system. All personnel will wear steel-toed footwear and hard-hats.

## 5.0 AIR MONITORING

### 5.1 DIRECT READING INSTRUMENTS

An HNu Systems PID-101 Photoionization (PID) detector equipped with a 10.2 ev lamp will be used to screen the contents of the drums and containers as well as the floor pits, tanks, and trenches. The PID will also be used to measure the presence of total organic compounds in the breathing zone of employees performing these activities. Sustained instrument response of 5 units in the breathing zone of employees will require the wearing of respiratory protection. Although there is a good indication that the materials within the containers are paints and oily materials, there is still a degree of uncertainty associated with the sampling of these containers. For this reason, the conservative action level of 5 units, as indicated by the PID, was selected.

If breathing zone concentrations of total organic vapors are sustained (15 minutes) at or above 25 units, the sampling team will leave the immediate area and don Level B respiratory protection. Organic vapor cartridges have a concentration limit of 1,000 ppm. However, the maximum use concentration (protection factor of respirator x PEL of contaminant) of a full face air purifying respirator (protection factor of 50) in an atmosphere containing a contaminant with a PEL of 1 ppm (assumes highly toxic material) is 50 ppm. It can not be assumed that the contaminant generating the concentration has a photoionization sensitivity of 10. A safety factor has been applied to account for this, hence an action level of 25 has been set for upgrading the level of respiratory protection to supplied air.

A Bacharach Sniffer 503 A - Combustible Gas Indicator (CGI), will be used to screen the containers for explosive atmospheres. The instrument is calibrated to Pentane. The calibration will be checked with a 50% LEL mixture of Pentane in air each day. Since many solvent vapors are heavier than air, all three sections of a container; top, middle and bottom must be screened. The action levels associated with use of the CGI are atmospheres that produce a reading of 10% LEL which require the use of non-sparking tools and explosion proof electrical devices, and at a reading of 25% LEL all personnel will stop work and vacate the area until the readings diminish and the source of the combustible atmosphere is controlled or removed. Only spark-proof tools will be used to open container lids and/or drum bungs.

HNu and CGI calibration procedures will be performed in accordance with the Standard Operating Procedures for the HALLIBURTON NUS Environmental Management Group, SOP ME-01 and SOP ME-05, respectively.. A log of PID and CGI readings will be kept in the field notebook. Calibration information will also be recorded in the field notebook.

## 5.2 PERSONAL AIR SAMPLING

Personal air sampling will not be conducted during this phase of the investigation.

## 6.0 PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment will be donned as described below for the tasks covered by this HASP to protect employees from coming into direct contact with any residual contamination or containerized liquids.

### 6.1 PROTECTIVE CLOTHING

1. Hard Hat
2. Safety Glasses
3. Steel-toed boots
- 4a. Tyvek coveralls w/hoods
- 4b. Polycoated tyvek coveralls w/hoods
5. Latex gloves
6. Nitrile gloves
7. Kevlar gloves
8. Protective shoe covers (nuke boots)

Items 1, 3 and 8 must be worn by all employees whenever they enter the buildings due to the deteriorated state of the buildings and the amount of asbestos debris on the floors. Respiratory protection, as described below, is also required when entering the buildings.

#### Container Sampling/Electrical Equipment Sampling

Assuming the material being sampled is liquid, the following will be worn:

Items: 2,4b,5,6

Item 7 will be worn over the nitrile gloves when there is the potential for employees to cut their hands during sampling. Kevlar gloves will be worn, for example, if a container has jagged, metal edges or when glass sampling tubes are broken inside the container being sampled.

#### Floor Sampling

Items: 4a,5,6,

### 6.2 RESPIRATORY PROTECTION

Due to the presence of friable asbestos and dried bird droppings on the floor (and the potential for the material to become easily airborne), employees entering Buildings 32 and 35 will wear full

face air-purifying respiratory protection with combination organic vapor cartridges (due to the potential presence of organic vapors in containers) and HEPA cartridges. All personnel who will be required to don air purifying respirators must have been qualitatively or quantitatively fit-tested within the last year for the particular brand and size respirator he/she will be wearing on-site. Normal eyeglasses can not be worn under full-face respirators because the temple bars interfere with the face seal. For workers wearing corrective lenses, special spectacles designed for use with respirators must be available.

If total organic vapor concentrations within the breathing zone of employees are sustained at or above 25 units, as indicated by the PID, Level B respiratory protection will be donned. ENSR personnel will don Scott 4.5 Air Paks. These Self-Contained Breathing Apparatus (SCBA's) will provide approximately 30 minutes of work time. The units operate in the pressure-demand mode. Although not anticipated, if Level B protection is needed on a regular basis during this project, air line equipment will be mobilized to the site. The RHSM should be notified immediately if this condition exists.

### **6.3 OTHER SAFETY EQUIPMENT**

ENSR will bring the following additional safety equipment to the site:

- First aid kit
- Portable, hand-held eyewash bottle
- 6 gallon, gravity-fed eyewash station w/anti-bacterial solution
- Coleman lights w/200,000 candlepower each
- (2), 5lb., A-B-C type fire extinguishers
- Spark-proof tools for opening containers

## 7.0 SITE CONTROL

To prevent both exposure of unprotected personnel and migration of contamination due to tracking by personnel or equipment, work areas and associated personal protective equipment requirements will be clearly identified.

### 7.1 WORK ZONES

ENSR designates work areas or zones as suggested in the "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities," NIOSH/OSHA/USCG/EPA, November, 1985. They recommend the areas surrounding each of the work areas to be divided into three zones:

- Exclusion or "Hot" Zone
- Contamination Reduction Zone (CRZ)
- Support Zone

#### 7.1.1 Exclusion Zone

The exclusion zone will be Buildings 32 and 35 (extension-inactive area). All personnel entering the exclusion zone (the buildings) must wear the prescribed level of protective equipment.

#### 7.1.2 Contamination Reduction Zone

The contamination reduction zone will be set up at the junction of the active area of building 35 and the inactive area. Personnel will begin the sequential decontamination process in this central decontamination zone. Changing of personal protective equipment will not be necessary when moving from one area of investigation to the other.

#### 7.1.3 Support Zone

Due to accessibility problems, the use of a central support zone would require lengthy trips back and forth to the active area of Building 35. Materials that are not needed on an immediate basis can be left in this area. However, sampling equipment and monitoring instruments will have to be transported from sampling area to sampling area. The instruments will be protected in plastic bags to prevent contamination. Sampling tubes and sample container jars will be stored in a closed box or cooler and transported from sample area to sample area as well.

Eating and drinking will only be allowed in the active area of Building 35 or outside and only after employees have completed proper personnel decontamination procedures. Smoking is forbidden on the island.

## **7.2 PROTECTIVE MEASURES**

The following measures are designed to augment the specific health and safety guidelines provided in this plan.

- The "buddy system" will be used at all times by all field personnel. No one is to perform sampling activities alone or wander through the buildings alone. All Field Team members must be intimately familiar with the procedures for initiating an emergency response.
- Avoidance of contamination is of the utmost importance due to the presence of friable asbestos debris. Whenever possible, avoid contact with contaminated (or potentially contaminated) surfaces or materials. Walk around (not through) puddles and discolored surfaces. Do not kneel on the ground or set equipment on the ground. Protect air monitoring equipment from water and contamination by bagging.
- Eating, drinking, chewing gum or tobacco, smoking or any practice that increases the probability of hand-to-mouth transfer and ingestion of materials is prohibited.
- Hands and face must be thoroughly washed upon leaving the work area and before eating, drinking or any other activities.
- Beards or other facial hair that interfere with respirator fit are prohibited.
- The use of alcohol or illicit drugs is prohibited during the conduct of field operations.
- All equipment must be decontaminated or properly discarded before leaving the site.
- Safety equipment described in Section 6.0 will be required for all Field Team personnel unless otherwise approved by the Regional Manager of Health and Safety Services (RHSM) or the Site Safety Officer (SSO).

## 8.0 DECONTAMINATION

Proper decontamination is required of all personnel and equipment before leaving the Site. Personnel decontamination will be accomplished by following a systematic procedure of removing personal protective equipment (PPE).

Disposable PPE, such as Tyvek coveralls, gloves, outer boots, etc. will be disposed of in plastic bags, labeled "PPE". Bags will be left on-site for future disposal. Respirators will be cleaned after each use with respirator wipe pads and will be stored in plastic bags after cleaning.

### Decontamination Procedures

1. Remove and wipe clean hard hat
2. Remove outer "nuke" boots (if worn)
3. Remove outer gloves
4. Remove tyvek coveralls
5. Remove respirator, wipe clean and store (if worn)
6. Remove inner gloves

A cooler of potable water will be dedicated for hand and face washing. Liquid soap and hand towelettes will be available. This water can also be used to rinse respirator facepieces.

The decontamination procedures for sampling equipment are presented in the Field Sampling and Analysis Plan.

## **9.0 MEDICAL MONITORING AND TRAINING REQUIREMENTS**

### **9.1 MEDICAL MONITORING**

All personnel performing activities on this Site covered by this HASP must be active participants in ENSR's Medical Monitoring Program or in a similar program which complies with 29 CFR 1910.120(f). Each individual must have completed an annual surveillance examination and/or an initial baseline examination within the last year prior to performing any work on this site covered by this HASP.

### **9.2 TRAINING**

Additionally, all personnel performing activities on this Site covered by this HASP must have completed the appropriate training requirements specified in 29 CFR 1910.120(e). Each individual must have completed an annual 8-hour refresher training course and/or initial 40-hour training course within the last year prior to performing any work on this Site covered by this HASP. Also, onsite managers and supervisors directly responsible for supervising individuals engaged in hazardous waste operations must have completed the specified 8-hour managers training course.

Although not required under 29 CFR 1910, it is recommended by this plan that one person qualified in First Aid and CPR be present during all site work.

Subcontractors to ENSR will be required to provide to the ENSR Project Manager (PM) signed Subcontractor Medical Approval and Compliance Forms, SOP MD-02, for each individual assigned to this project that has completed the medical monitoring and training requirements specified above. This information must be provided prior to their performing any work onsite. The appropriate Subcontractor Forms are provided in Attachment E.

### **9.3 PRE-ENTRY BRIEFING**

Prior to the commencement of on-site investigative activities, a site safety meeting will be held to review the specific requirements of this HASP. HASP sign-off sheets will be collected at this meeting. Short safety refresher meetings will be conducted, as needed, throughout the duration of the project. Attendance of this meeting will be documented. An attendance sign-in form is presented in Attachment C.

## 10.0 EMERGENCY RESPONSE

OSHA defines **emergency response** as any "response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual-aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result in an **uncontrolled release of a hazardous substance.**" According to HALLIBURTON NUS policy, ENSR personnel shall not participate in any emergency response where there are potential safety or health hazards (i.e., fire, explosion, or chemical exposure). ENSR response actions will be limited to evacuation and medical/first aid as described within this section below.

The basic elements of an emergency evacuation plan include employee training, alarm systems, escape routes, escape procedures, critical operations or equipment, rescue and medical duty assignments, designation of responsible parties, emergency reporting procedures and methods to account for all employees after evacuation.

In the event of an emergency, all personnel will evacuate the buildings and meet in the active area of Building 35. The SSO will notify the security guard (located in Building 35) of the emergency and the guard will then summons help (via radio) and dispatch a boat to the island for evacuation. If the incident is urgent or life-threatening in nature, the security guard will call the Occupational Health Office at the NUSC at extension 3341 or 3442. The Office will then summons the Navy Hospital ambulance which will meet the boat at the docks and transport the employee to the Naval Hospital.

ENSR has contacted the Occupational Health Office at the NUSC to verify these procedures. The attached emergency reference sheet must be given to the security guard so that he can initiate response and upon direction from ENSR summons the appropriate help.

Any incident (other than minor first aid treatment) resulting in injury, illness or property damage requires an incident investigation and report. The investigation will be initiated as soon as emergency conditions are under control. The purpose of the investigation is not to attribute blame but to determine the pertinent facts so that repeat or similar occurrences can be avoided.

The investigation should begin while details are fresh in the mind of anyone involved. The person administering first aid may be able to start the fact gathering process if the injured are able to speak. Pertinent facts must be determined. Questions beginning with who, what, when, where and how are usually most effective to discover ways to improve job performance in terms of efficiency, quality of work, as well as health and safety concerns.

Incident investigation report forms are presented in Attachment D of this document.

## EMERGENCY REFERENCE

### MEDICAL EMERGENCY ON THE ISLAND

**CONTACT OCCUPATIONAL HEALTH OFFICE AT NUSC BY DIALING EXTENSION 3341 OR 3342**

The Navy Hospital ambulance will be called by the Occupational Health Office and instructed to meet the boat at the docks.

**HOSPITAL: Naval Hospital  
401-841-3771**

**NATIONAL RESPONSE CENTER: 1-800-424-8802**

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### **ENSR REPRESENTATIVES:**

ENSR/ACTON, MA            508-635-9500

-Kathleen Harvey (RHSM)    x 3325

-Steve Croce (PM)            x 3098

**ATTACHMENT A  
HASP SIGN-OFF SHEET**

HEALTH AND SAFETY PLAN  
FOR  
WASTE SAMPLING AND ANALYSIS INVESTIGATION  
NAVAL UNDERWATER SYSTEMS CENTER  
GOULD ISLAND ANNEX  
NEWPORT, RHODE ISLAND

ENSR PROJECT NUMBER: 5060-006

I the undersigned have received a copy of the above referenced document. I have read this document and understand its contents and requirements. I agree to abide by the requirements of this health and safety plan.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Representing

**ATTACHMENT B  
MATERIAL SAFETY DATA SHEETS**

# MALLINCKRODT

## Material Safety Data Sheet

Mallinckrodt, Inc. Science Products Division, P.O. Box M Paris, KY 40361

Mallinckrodt provides the information contained herein in good faith but makes no representation as to its comprehensiveness or accuracy. Individuals receiving the information must exercise their independent judgment in determining its appropriateness for a particular purpose. MALLINCKRODT MAKES NO REPRESENTATIONS, OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF

MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR TO THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, MALLINCKRODT WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

Emergency Telephone Number: 314-982-5000

### NITRIC ACID, 70%

#### PRODUCT IDENTIFICATION:

Synonyms: Aqua Fortis; Azotic Acid; Nitric Acid 70%

Formula CAS No.: 7697-37-2

Molecular Weight: 63.00

Chemical Formula: HNO<sub>3</sub>

Hazardous Ingredients: Nitric acid

#### PRECAUTIONARY MEASURES

**DANGER! STRONG OXIDIZER. CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE. CORROSIVE. LIQUID AND MIST CAUSE SEVERE BURNS TO ALL BODY TISSUE. MAY BE FATAL IF SWALLOWED. HARMFUL IF INHALED. INHALATION MAY CAUSE LUNG DAMAGE.**

Do not get in eyes, on skin, or on clothing.

Avoid breathing mist.

Use only with adequate ventilation.

Wash thoroughly after handling.

Keep from contact with clothing and other combustible materials.

Do not store near combustible materials.

Store in a tightly closed container.

Remove and wash contaminated clothing promptly.

This substance is classified as a POISON under the Federal Caustic Poison Act.

#### EMERGENCY/FIRST AID

In case of contact, immediately flush skin or eyes with plenty of water for at least 15 minutes. If swallowed, DO NOT INDUCE VOMITING!

Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases call a physician.

SEE SECTION 5.

DOT Hazard Class: Oxidizer

#### SECTION 1 Physical Data

Appearance: Clear, colorless to slightly yellow liquid.

Odor: Suffocating acid.

Solubility: Infinite in water.

Boiling Point: 122°C (252°F)

Melting Point: -34°C (-29°F)

Specific Gravity: 1.41

Vapor Density (Air=1): 2-3 approximately

Vapor Pressure (mm Hg): 62 @ 20°C (68°F)

Evaporation Rate: No information found.

#### SECTION 2 Fire and Explosion Information

##### Fire:

Not combustible, but substance is a strong oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition. Can react with metals to release flammable hydrogen gas.

##### Explosion:

Reacts explosively with combustible organic or readily oxidizable materials such as: alcohols, turpentine, charcoal, organic refuse, metal powder, hydrogen sulfide, etc.

##### Fire Extinguishing Media:

If involved in a fire, use water spray.

##### Special Information:

Increases the flammability of combustible, organic and readily oxidizable materials. In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

#### SECTION 3 Reactivity Data

##### Stability:

Stable under ordinary conditions of use and storage. Containers may burst when heated.

##### Hazardous Decomposition Products:

When heated to decomposition, emits toxic nitrogen oxides fumes and hydrogen nitrate. Will react with water or steam to produce heat and toxic and corrosive fumes.

##### Hazardous Polymerization:

Will not occur.

##### Incompatibilities:

A dangerously powerful oxidizing agent, concentrated nitric acid is incompatible with most substances, especially strong bases, metallic powders, carbides, hydrogen sulfide, turpentine, and combustible organics.

#### SECTION 4 Leak/Spill Disposal Information

Isolate or enclose the area of the leak or spill. Clean-up personnel should wear protective clothing and respiratory equipment suitable for toxic or corrosive fluids or vapors. Small Spills: Flush with water and neutralize with alkaline material (soda ash, lime, etc.). Sewer with excess water. Larger spills and lot sizes: Neutralize with alkaline material, pick up with absorbent material (sand, earth, vermiculite) and dispose in a RCRA-approved waste facility or sewer the neutralized slurry with excess water if local ordinances allow. Provide forced ventilation to dissipate fumes.

Reportable Quantity (RQ)(CWA/CERCLA): 1000 lbs

Ensure compliance with local, state and federal regulations

NFPA Ratings: Health: 3 Flammability: 0 Reactivity: 0 Other: Oxidizer

Effective Date: 04-06-89 Supersedes 10-21-86

NITRIC ACID, 70%

AD

**SECTION 5 Health Hazard Information**

**A. EXPOSURE / HEALTH EFFECTS**

**Inhalation:**

Corrosive! Inhalation of vapors can cause breathing difficulties and lead to pneumonia and pulmonary edema, which may be fatal. Other symptoms may include coughing, choking, and irritation of the nose, throat, and respiratory tract.

**Ingestion:**

Corrosive! Swallowing nitric acid can cause immediate pain and burns of the mouth, throat, esophagus and gastrointestinal tract.

**Skin Contact:**

Corrosive! Can cause redness, pain, and severe skin burns. Concentrated solutions cause deep ulcers and stain skin a yellow or yellow-brown color.

**Eye Contact:**

Corrosive! Vapors are irritating and may cause damage to the eyes. Splashes may cause severe burns and permanent eye damage.

**Chronic Exposure:**

Long-term exposure to concentrated vapors may cause erosion of teeth. Long term exposures seldom occur due to the corrosive properties of the acid.

**Aggravation of Pre-existing Conditions:**

Persons with pre-existing skin disorders or eye disease may be more susceptible to the effects of this substance.

**B. FIRST AID**

**Inhalation:**

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

**Ingestion:**

DO NOT INDUCE VOMITING! Give large quantities of water or milk if available. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**Skin Exposure:**

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

**Eye Exposure:**

Wash eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

**C. TOXICITY DATA** (RTECS, 1986)

Inhalation (Rat) LC50: 244 ppm (NO<sub>2</sub>)/30M

**SECTION 6 Occupational Control Measures**

**Airborne Exposure Limits:**

- OSHA Permissible Exposure Limit (PEL):  
2 ppm (TWA), 4 ppm (STEL)
- ACGIH Threshold Limit Value (TLV):  
2 ppm (TWA); 4 ppm (STEL)

**Ventilation System:**

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

**Personal Respirators: (NIOSH Approved)**

If the TLV is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or self-contained breathing apparatus. Nitric acid is an oxidizer and should not come in contact with cartridges and cannisters that contain oxidizable materials, such as activated charcoal.

**Skin Protection:**

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls to prevent skin contact.

**Eye Protection:**

Use chemical safety goggles and/or a full face shield where splashing is possible. Contact lenses should not be worn when working with this material. Maintain eye wash fountain and quick-drench facilities in work area.

**SECTION 7 Storage and Special Information**

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect from physical damage and direct sunlight. Isolate from incompatible substances. Protect from moisture.

.....  
NITRA

Baxter Healthcare Corporation  
 B Jrdick & Jackson Division  
 1953 South Harvey Street  
 Muskegon, MI 49442 USA

information/emergency telephone no. 616.726.3171  
 chemtrec telephone no 800.424.9300  
 canadian emergency telephone no. 613.996.6666

**MATERIAL SAFETY  
 DATA SHEET**

**I. Identification**

chemical name Methanol molecular weight 32.04  
 chemical family Alcohol formula CH<sub>4</sub>O  
 synonyms Carbinol, Methyl Alcohol, Wood Alcohol  
 DOT proper shipping name Methyl Alcohol or Methanol  
 DOT hazard class Flammable Liquid  
 DOT identification no UN1230 CAS no. 67-56-1

**METHANOL**

**II. Physical and Chemical Data**

boiling point, 760mm Hg. 64.7°C freezing point -97.7°C evaporation rate (BuAc=1) ca 5  
 vapor pressure at 20°C 97 mm Hg vapor density (air=1) 1.11 solubility in water @ 20°C complete  
 % volatiles by volume ca 100 specific gravity (H<sub>2</sub>O=1) @ 20°C 0.792 stability Stable  
 hazardous polymerization Not expected to occur.  
 appearance and odor A clear, colorless liquid with a slight alcoholic odor.  
 conditions to avoid Heat, sparks, open flame, open containers, and poor ventilation.

materials to avoid Strong oxidizing agents and reactive metals which will displace hydrogen.

hazardous decomposition products Incomplete combustion can generate carbon monoxide and other toxic vapors such as formaldehyde.

**III. Fire and Explosion Hazard Data**

flash point (test method) 12°C (Tag closed cup) auto ignition temperature 385°C  
 flammable limits in air % by volume lower limit 6.7 upper limit 36.5  
 unusual fire and explosion hazards May burn with an invisible flame. Mixtures with water as low as 21% by volume are still flammable (flash point below 37.8°C). Under some circumstances can corrode certain metals, including aluminum and zinc, and generate hydrogen gas.  
 extinguishing media Carbon dioxide, dry chemical, alcohol foam, water mist or fog.  
 special fire fighting procedures Wear full protective clothing and self-contained breathing apparatus. Heat will build pressure and may rupture closed storage containers. Keep fire-exposed containers cool with water spray.

**IV. Hazardous Components**

Methanol % ca 100 TLV 200 ppm (skin) CAS no 67-56-1

**Burdick & Jackson's Disclaimer:** The information and recommendations presented in this Material Safety Data Sheet are based on sources believed to be reliable on the date hereof. Burdick & Jackson makes no representation on its completeness or accuracy. It is the user's responsibility to determine the product's suitability for its intended use, the product's safe use, and the product's proper disposal. No representations or warranties, either express or implied, of merchantability or fitness for a particular purpose or of any other nature are made with respect to the information contained in this Material Safety Data Sheet or to the product to which such information refers. Burdick & Jackson neither assumes nor authorizes any other person to assume for it any other or additional liability or responsibility resulting from the use of or reliance upon, this information.



## Emergency First Aid

- Inhalation:** Immediately remove to fresh air. If not breathing, administer mouth-to-mouth rescue breathing. If there is no pulse administer cardiopulmonary resuscitation (CPR). Contact physician immediately.
- Eye Contact:** Rinse with copious amounts of water for at least 15 minutes. Get emergency medical assistance.
- Skin Contact:** Flush thoroughly for at least 15 minutes. Wash affected skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before re-use, and discard contaminated shoes. Get emergency medical assistance.
- Ingestion:** Call local Poison Control Center for assistance. Contact physician immediately. Never induce vomiting or give anything by mouth to a victim unconscious or having convulsions.

## Note to Physician

In case of ingestion or massive inhalation, observe victim as an inpatient because slow metabolism causes a latent period of 24 hours between exposure and acidosis and blindness.

## **VI. Safety Measures and Equipment**

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- Ventilation:** Adequate ventilation is required to protect personnel from exposure to chemical vapors exceeding the PEL and to minimize fire hazards. The choice of ventilation equipment, either local or general, will depend on the conditions of use, quantity of material, and other operating parameters.
- Respiratory:** Use approved respirator equipment. Follow NIOSH and equipment manufacturer's recommendations to determine appropriate equipment (air-purifying, air-supplied, or self-contained breathing apparatus).
- Eyes:** Safety glasses are considered minimum protection. Goggles or face shield may be necessary depending on quantity of material and conditions of use.
- Skin:** Protective gloves and clothing are recommended. The choice of material must be based on chemical resistance and other user requirements. Generally, neoprene, nitrile rubber, or rubber offer acceptable chemical resistance. Individuals who are acutely and specifically sensitive to methanol may require additional protective equipment.

Storage: Methanol should be protected from temperature extremes and direct sunlight. Proper storage of methanol must be determined based on other materials stored and their hazards and potential chemical incompatibility. In general, methanol should be stored in an acceptably protected and secure flammable liquid storage room.

Other: Emergency eye wash fountains and safety showers should be available in the vicinity of any potential exposure. Ground and bond metal containers to minimize static sparks.

**VII. Spill and Disposal Data**

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Spill Control: Protect from ignition. Wear protective clothing and use approved respirator equipment. Absorb spilled material in an absorbent recommended for solvent spills and remove to a safe location for disposal by approved methods. If released to the environment, comply with all regulatory notification requirements. CERCLA Reportable Quantity — 5,000 lbs.

Waste Disposal: Dispose of methanol as an EPA hazardous waste. Contact state environmental agency for listing of licensed hazardous waste disposal facilities and applicable regulations. Hazardous waste numbers: U154(Ignitable); D001(Ignitable).

**VIII. SARA/Title III Data**

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<u>Hazard Classification</u>		<u>Chemical Listings</u>	
Immediate Health	Yes	Extremely Hazardous Substances	No
Delayed Health	Yes	CERCLA Hazardous Substances	Yes
Fire	Yes	Toxic Chemicals	Yes
Sudden Release	No		
Reactive	No		

Methanol is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40CFR Part 372. This product does not contain any other toxic chemical above 1% concentration or a carcinogen above 0.1% concentration.

Revision Date: July, 1989

KEY

ca	Approximately	STEL	Short Term Exposure Level (15 minutes)
na	Not applicable	TLV	Threshold Limit Value
C	Ceiling	TWA	Time Weighted Average (8 hours)
		BuAc	Butyl Acetate

CERCLA Comprehensive Environmental Response, Compensation and Liability Act  
NSC National Safety Council ("Fundamentals of Industrial Hygiene," 3rd Ed., 1988)

**ATTACHMENT C  
PRE-ENTRY BRIEFING ATTENDANCE SHEET**



**ATTACHMENT D**  
**INCIDENT INVESTIGATION REPORT FORMS**



Subject  INCIDENT INVESTIGATION AND REPORTING	Number HS-11	Page 6 of 12
	Revision 3	Effective Date 05/04/90

**ATTACHMENT B  
INCIDENT REPORT  
PAGE TWO**

WITNESSES TO INCIDENT

- NAME \_\_\_\_\_ COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 TELEPHONE NO. \_\_\_\_\_
- NAME \_\_\_\_\_ COMPANY \_\_\_\_\_  
 ADDRESS \_\_\_\_\_  
 TELEPHONE NO. \_\_\_\_\_

INJURIES

FIRST INJURED PERSON

Name and Address of Injured: \_\_\_\_\_  
 \_\_\_\_\_

SSN: \_\_\_\_\_ Age: \_\_\_\_\_ Sex: \_\_\_\_\_

Years of Service: \_\_\_\_\_ Time on Present Job: \_\_\_\_\_

Title/Classification: \_\_\_\_\_

Severity of Injury or Illness:

Disabling                       Nondisabling  
 Fatality                               Medical Treatment

Estimated Number of Days Away From Job: \_\_\_\_\_

Nature of Injury or Illness: \_\_\_\_\_  
 \_\_\_\_\_

Subject <b>INCIDENT INVESTIGATION AND REPORTING</b>	Number HS-11	Page 7 of 12
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**ATTACHMENT B  
INCIDENT REPORT  
PAGE THREE**

Classification of Injury:

- |  |  |  |
|--|--|--|
| <input type="checkbox"/> Fractures           | <input type="checkbox"/> Heat Burns                    | <input type="checkbox"/> Cold Exposure   |
| <input type="checkbox"/> Dislocations        | <input type="checkbox"/> Chemical Burns                | <input type="checkbox"/> Frostbite       |
| <input type="checkbox"/> Sprains             | <input type="checkbox"/> Radiation Burns               | <input type="checkbox"/> Heat Stroke     |
| <input type="checkbox"/> Abrasions           | <input type="checkbox"/> Bruises                       | <input type="checkbox"/> Heat Exhaustion |
| <input type="checkbox"/> Lacerations         | <input type="checkbox"/> Blisters                      | <input type="checkbox"/> Concussion      |
| <input type="checkbox"/> Punctures           | <input type="checkbox"/> Toxic Respiratory<br>Exposure | <input type="checkbox"/> Bites           |
| <input type="checkbox"/> Faint/Dizziness     |  | <input type="checkbox"/> Toxic Ingestion |
| <input type="checkbox"/> Respiratory Allergy |  | <input type="checkbox"/> Dermal Allergy  |

Part of Body Affected: \_\_\_\_\_

Degree of Disability: \_\_\_\_\_

Date Medical Care was Received: \_\_\_\_\_

Where Medical Care was Received: \_\_\_\_\_

Address (if offsite): \_\_\_\_\_

If Hospitalized:

Name, Address, and Telephone No. of Hospital: \_\_\_\_\_

Name, Address, and Telephone No. of Physician: \_\_\_\_\_

**SECOND INJURED PERSON**

Name and Address of Injured: \_\_\_\_\_

SSN: \_\_\_\_\_

Age: \_\_\_\_\_

Sex: \_\_\_\_\_

Years of Service: \_\_\_\_\_

Time on Present Job: \_\_\_\_\_

Title/Classification: \_\_\_\_\_

Subject  INCIDENT INVESTIGATION AND REPORTING	Number HS-11	Page 8 of 12
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**ATTACHMENT B  
INCIDENT REPORT  
PAGE FOUR**

Severity of Injury or Illness:

Disabling                       Nondisabling  
 Fatality                               Medical Treatment

Estimated Number of Days Away From Job: \_\_\_\_\_

Nature of Injury or Illness: \_\_\_\_\_

Classification of Injury:

<input type="checkbox"/> Fractures	<input type="checkbox"/> Heat Burns	<input type="checkbox"/> Cold Exposure
<input type="checkbox"/> Dislocations	<input type="checkbox"/> Chemical Burns	<input type="checkbox"/> Frostbite
<input type="checkbox"/> Sprains	<input type="checkbox"/> Radiation Burns	<input type="checkbox"/> Heat Stroke
<input type="checkbox"/> Abrasions	<input type="checkbox"/> Bruises	<input type="checkbox"/> Heat Exhaustion
<input type="checkbox"/> Lacerations	<input type="checkbox"/> Blisters	<input type="checkbox"/> Concussion
<input type="checkbox"/> Punctures	<input type="checkbox"/> Toxic Respiratory	<input type="checkbox"/> Bites
<input type="checkbox"/> Faint/Dizziness	<input type="checkbox"/> Exposure	<input type="checkbox"/> Toxic Ingestion
<input type="checkbox"/> Respiratory Allergy		<input type="checkbox"/> Dermal Allergy

Part of Body Affected: \_\_\_\_\_

Degree of Disability: \_\_\_\_\_

Date Medical Care was Received: \_\_\_\_\_

Where Medical Care was Received: \_\_\_\_\_

Address (if offsite): \_\_\_\_\_

If Hospitalized:

Name, Address, and Telephone No. of Hospital: \_\_\_\_\_

Name, Address, and Telephone No. of Physician: \_\_\_\_\_

Subject  <b>INCIDENT INVESTIGATION AND REPORTING</b>	Number HS-11	Page 9 of 12
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**ATTACHMENT B  
INCIDENT REPORT  
PAGE FIVE**

PROPERTY DAMAGE

Brief Description of Property Damaged

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Estimate of Damage: \$ \_\_\_\_\_

INCIDENT LOCATION

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INCIDENT ANALYSIS

Causative agent most directly related to accident (object, substance, material, machinery, equipment, conditions):

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Was weather a factor? \_\_\_\_\_

Unsafe mechanical/physical/environmental condition at time of incident (Be specific):

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Subject  INCIDENT INVESTIGATION AND REPORTING	Number HS-11	Page 10 of 12
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**ATTACHMENT B  
INCIDENT REPORT  
PAGE SIX**

Unsafe act by injured and/or others contributing to the incident (Be specific, must be answered):

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Personal factors (improper attitude, lack of knowledge or skill, slow reaction, fatigue):

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Onsite Incidents

Level of personal protection equipment required in Site Safety Plan:

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Modifications: \_\_\_\_\_

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Was injured using required equipment? \_\_\_\_\_

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If not, how did actual equipment use differ from plan? \_\_\_\_\_

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**ATTACHMENT E  
SUBCONTRACTOR MEDICAL APPROVAL  
AND COMPLIANCE FORMS**

Subject <b>SUBCONTRACTOR HEALTH AND SAFETY</b>	Number MD-02	Page 4 of 6
	Revision 2	Effective Date 05/04/90

**ATTACHMENT A  
SUBCONTRACTOR MEDICAL APPROVAL FORM**

For employees of \_\_\_\_\_  
Company Name

Participant Name: \_\_\_\_\_ Date of Exam: \_\_\_\_\_

**Part A**

The above-named individual has:

- 1 Undergone a physical examination in accordance with OSHA Standard 29 CFR 1910.120, paragraph (f) and found to be medically -
  - qualified to perform work at the \_\_\_\_\_ work site
  - not qualified to perform work at the \_\_\_\_\_ work site
- and,
2. Undergone a physical examination as per OSHA 29 CFR 1910.134 (b)(10) and found to be medically -
  - qualified to work in respiratory protection
  - not qualified to work in respiratory protection

My evaluation has been based on the following information, as provided to me by the employer.

- A copy of OSHA Standard 29 CFR 1910.120 and appendices.
- A description of the employee's duties as they relate to the employee's exposures.
- A list of known/suspected contaminants and their concentrations (if known).
- A description of any personal protective equipment used or to be used.
- Information from previous medical examinations of the employee, which is not readily available to the examining physician.

**Part B**

I, \_\_\_\_\_, have examined \_\_\_\_\_  
Physician's Name (print) Participant's Name (print)  
and have determined the following information:

- 1 Results of the medical examination and tests (excluding findings or diagnoses unrelated to occupational exposure):  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**ATTACHMENT A  
SUBCONTRACTOR MEDICAL APPROVAL FORM  
PAGE TWO**

2. Any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health:

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3. Recommended limitations upon the employee's assigned work:

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I have informed this participant of the results of this medical examination and any medical conditions which require further examination or treatment.

Based on the information provided to me, and in view of the activities and hazard potentials involved at the \_\_\_\_\_ work site, this participant

- may
- may not

perform his/her assignment task.

Physician's Signature \_\_\_\_\_

Address \_\_\_\_\_

Phone Number \_\_\_\_\_

NOTE: Copies of test results are maintained and available at:

\_\_\_\_\_ Address

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**ATTACHMENT B**

**SUBCONTRACTOR COMPLIANCE FORM**

Name of Company/Organization: \_\_\_\_\_

Name of Employer: \_\_\_\_\_

I hereby certify that the above-named employer shall comply with all applicable Federal, state, and local Occupational Safety and Health (OSH) requirements and specifically the requirements specified in OSHA Standard 29 CFR 1910.120, before the initiation of field work at the \_\_\_\_\_ site, and shall continue said compliance through the completion of the contract with NUS Corporation.

\_\_\_\_\_  
(date)

\_\_\_\_\_  
(signature of company officer)

\_\_\_\_\_  
(address)

\_\_\_\_\_  
(phone number)