Contractor's Representative with
Contractor's Address:

_____

_____

_____

_____

_____

_____

Date: _____

Dear _____ (Contractor's Representative)

A Shaw Industries purchase order, PO# _____ , has been issued to your company from the Columbia, S.C. Plant 8S, which will require your people to come onto the Columbia Site to provide service and perform work. As a part of Shaw's policy and requirements, each of your employees entering the Columbia Site must be covered on Shaw's Safety Rules; the Site's Environmental Control requirements, the Site's Chemical Product Safety Review process, and the hazards of various on-site chemicals.

A package of information covering the above subjects is herein provided for your use in training your employees and any subcontractors prior to coming to work at the Shaw Columbia Plant. Only those items and site chemicals applicable to your particular work or work location need to be covered. The primary area(s) in which your people will be working in our facility is / are:

_____

_____

_____

Section 1 of this package contains four (4) documents that Contractors **new** to the Shaw Columbia Plant must sign and return prior to performing any work. These three documents are:

1. Contractor / Vendor Safety Agreement, p. 8
2. Release and Indemnity Form, p. 9
3. Contractor Safety Questionnaire, p. 12
4. Chemical Hazard Communication Declaration, p.

In addition to the four signed documents, the Contractor must also provide a copy of a **Certificate of Insurance**. The four signed documents along with the Certificate of Insurance must be returned to:

Plant Engineer
Shaw Industries, Inc.
4401 St. Andrews Road
Columbia, S.C. 29210

Section 2 of the package contains a "Shaw Contractor Safety Handbook" which explains the safety rules required by the Shaw Corporation. Prior to any work being performed, a representative from the Columbia Plant will review the Safety requirements with the Contractor representative and will use the checklist form entitled "PLANT SPECIFIC SAFETY STANDARDS" as a guideline for the review. Only those items applicable to the particular work or work area need to be covered. **Both Plant and Contractor representatives must sign the form on page 16 as well as the Acknowledgement page of the "Shaw Contractor Safety Handbook" on page 32.**

Contractors are responsible for reviewing the contents of this package with their employees and with any subcontractors.

All documents required to be signed by you as your Company's representative as well as your Company's Certificate of Insurance must be on file with Shaw Industries prior to you and your employees beginning any work at this facility.

Thank you for your cooperation.

_____

Signed By:
Shaw Project Manager

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Section 1

Contractor Agreements

CONTRACTOR / VENDOR SAFETY AGREEMENT

The Contractor/Vendor Safety Agreement ("Agreement") has been developed to protect employees and property of Shaw Industries Group, Inc, Shaw Industries, Inc. ("Shaw") and all contractors, subcontractors, and vendors, who are working on Shaw property. All contractors/vendors working on Shaw property must conform to the requirements of the Agreement. In addition, contractors/vendors must abide by the Plant Specific Safety Standards for the facility, where the work is being performed. A management representative from the facility will discuss the Plant Specific Safety Standards with the contractor/vendor. Contractors/vendors are required to cover the contents of this Agreement and the Plant Specific Safety Standards with their employees prior to starting work. All work must be performed in accordance with OSHA requirements and all environmental concerns must be addressed in accordance with EPA regulations. Any questions about safety or environmental concerns should be directed to the project manager or the Plant Manager at the facility. The contractor/vendor is responsible for providing his/her employees with the proper tools and equipment to perform the job safely, including any required personal protective equipment. Contractors must ensure that their subcontractors do the same. Several specific requirements are listed below; however, this list is not all inclusive.

1. Good housekeeping shall be maintained during all operations and clean up should occur at the end of work each day.

2. Each Shaw facility will have lockout/tagout procedures for all equipment at the facility. Contractors/vendors must comply with these procedures.

3. Each Shaw facility will have a Confined Space Entry program. Entry permits are required for any activities that require access to permit required confined spaces. These spaces will be labeled as such.

4. Prior to conducting any hot work at the facility, the contractor/vendor must obtain a permit in accordance with the facility's Hot Work Permit Program, unless the facility has designated an area specifically designed for hot work. Fire extinguishers must be located at the work site and a fire watch must be provided per the permit requirements. The contractor/vendor is responsible for providing fire extinguishers for hot work activities.

5. When any street vehicle is driven inside a plant, it must have its headlights and emergency flashers on, have the radio turned off, have the front windows rolled down, be escorted by a Shaw employee, and not exceed 5 mph. The engine and lights should be turned off when not in use. No parking is allowed inside the facility.

6. Shaw requires that lift trucks be driven only by operators, who have been trained through a program, which meets OSHA requirements. Company policy requires all operators to wear seat belts and safety glasses or prescription glasses, when operating powered industrial trucks.

CONTRACTOR / VENDOR SAFETY AGREEMENT

7. Personal protective equipment shall be worn according to the hazards associated with various types of exposure (e.g. Safety glasses, ear plugs, gloves, chemical gloves, respirators, aprons, harnesses, etc.) Contractors/vendors are responsible for providing their employees with all required personal protective equipment.

8. All compressed gas cylinders must be chained or secured in an upright position at all times, preferably on an approved cart. Spares and empties shall be secured upright with the protective caps in place. Cylinders shall not be transported on the forks of a lift truck.

9. All personnel lift baskets must have handrails and toe boards and be secured to the mast of the lift truck. Lift baskets must be certified. Baskets/cradles are not to be used to transport people.

10. All overhead work shall be performed in accordance with fall protection guidelines. Approved scaffolding, personnel lift baskets, order pickers, ladders, and platforms shall be used for work six feet or more above the working surface. Personal fall arrest systems will be used whenever other forms of fall protection are not adequate.

11. Electrical work is to be performed only by trained and authorized personnel and subject to any additional arc flash requirements.

12. All equipment brought onto Shaw property shall meet the applicable guarding and electrical safety guidelines required by OSHA.

13. Compressed air shall not be used to clean off personnel. Safety goggles must be worn when using compressed air.

14. The plant contact shall be made aware of any hazardous chemicals before the chemicals are brought onto the premises. Material Safety Data Sheets (MSDS's) shall be provided for all chemicals brought on the site.

15. If hoisting and rigging is to be conducted, a rigging plan must be submitted or a permit must be obtained.

16. All flammable materials shall be stored in OSHA approved containers.

17. Unless otherwise approved by plant management, only one day's supply of drummed or bulk chemicals will be allowed at the work site each day. Excess bulk chemical supplies must be stored in a spill containment area and secured against damage, vandalism, or theft.

CONTRACTOR / VENDOR SAFETY AGREEMENT

18. Appropriate protection shall be used to prevent any chemical spills. If a spill should occur, plant management must be contacted immediately and the spilled chemical must be contained.

19. Chemicals cannot be poured down the plant drains or dumped onto the ground, into a ditch, a creek, or any other area outside the facility.

20. All chemical waste generated by the contractor/vendor is the responsibility of the contractor/vendor and shall be disposed of in accordance with local, state, and federal law.

21. Smoking will not be permitted on Shaw property.

22. Alcohol and drug use is prohibited on Shaw property.

23. The Plant Specific Safety Standards must be covered with all contractor/subcontractor/vendor employees by the contractor/vendor.

24. Shaw must be notified of any injuries or incidents that occur on site. If applicable, OSHA's Bloodborne Pathogens regulations must be followed.

CONTRACTOR / VENDOR SAFETY AGREEMENT

I have read the preceding safety agreement and will adhere to its requirements and to the requirements of the Plant Specific Safety Standards that will be presented to me prior to beginning work. I understand that this is not an all-inclusive list of safety requirements. Any issues not listed above will be deferred back to OSHA guidelines and the Shaw Safety Program. I will cover these requirements and the plant requirements with all of my employees and subcontractors who may be present at any time on the project site. I understand that if I have any safety or environmental questions, I should consult my Shaw contacts at the plant and/or the project manager. I also understand that any of my employees or subcontractors can be removed from the facility for violation of these requirements. This Agreement shall supersede any provision in any other agreement between any parties to this Agreement, where said provision would result in noncompliance with this Agreement. Waiver of any breach or failure to enforce any of the terms or conditions of this Agreement by Shaw management at any time shall not limit or waive Shaw's right to enforce or compel strict compliance with every term and condition of this Agreement. The basic guidelines for addressing violations are as follows; however, serious cases might warrant skipping one or two steps of this process, while minor infractions could result in a verbal warning, if corrected immediately.

SAFETY VIOLATIONS

First Offense – The job supervisor will be notified that a violation of safety rules or policy was observed. A written warning will be sent to the general manager or owner of the company.

Second Offense – The repeat offender and job supervisor will be removed from the job.

Third Offense – The contractor could be dismissed from the current job and/or be notified that he/she would not be considered for future projects.

Contractor/Vendor: _____

Signature: _____ Date: _____

Title : _____ Phone : _____

Email address: _____

Shaw Industries Group, Inc.
616 East Walnut Avenue
P.O. Drawer 2128
Dalton, Ga. 30722-2128
706 278-3812

RELEASE AND INDEMNITY

In consideration of the granting of access to the premises of Shaw Industries, Inc. ("Shaw"), and as a condition to such access, the undersigned hereby acknowledges that such access would not be granted without the execution of the Release and Indemnity. Such access is being granted for the purpose of permitting the undersigned, his agents, coworkers and employees to perform services on Shaw premises with Shaw's permission. For this and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the undersigned, for himself, his heirs, personal representatives, executors, successors and assigns, intending to bind all of them, hereby agrees that he and they:

1. Hereby forever release, discharge, and forgive Shaw, its successors and assigns, from and against any and all claims, damages, losses, liabilities or injury, whether to persons or property, and including expenses (also attorney's fees) sustained by the undersigned and arising out of or in any manner connected with the activities of the undersigned while on Shaw's premises.

2. Hereby indemnify and agree to hold Shaw, its successors, and assigns harmless from any claims for such damages, losses, injuries, liabilities or expenses.

The foregoing release and indemnification shall cover all losses, damages, injuries, claims, liabilities or expenses sustained or incurred as the result of the undersigned's presence on Shaw's premises.

This _____day of _____ 20_____

Signature: _____

Print Name: _____

Company: _____

Witness: _____

SHAW INDUSTRIES GROUP, INC.
CONTRACTORS AND VENDOR INSURANCE REQUIREMENTS

Unless otherwise agreed to in writing, the Contractor or Vendor shall, at its sole expense, maintain in effect at all times during the performance of work and completed operations, insurance coverage with limits, not less than those set forth below with insurers and policy forms satisfactory to Shaw Industries Group, Inc. The insurance companies must have **A.M. Best ratings of at least A or better.** Contractor or Vendor shall cause its subcontractors at the jobsite or premise to obtain and maintain insurance policies to protect Shaw Industries Group, Inc. in accordance with the same insurance requirements. All insurance provided by the Contractor or Vendor and its subcontractors shall be primary and any similar insurance maintained by Shaw Industries Group, Inc. shall be excess thereof and not contributory with Contractor's or its subcontractor's insurance. Shaw Industries Group, Inc. shall be given thirty (30) days written notice in the event of cancellation, non-renewal or material alteration of any policy. All insurance provided by Contractor shall name Shaw Industries Group, Inc., and its subsidiaries as an "additional insured" except Workers' Compensation.

MINIMUM COVERAGE

All contracts for work on Shaw Industries Group, Inc. property must contain the following minimum coverage; however, such limits shall not limit Contractor or Vendor's liability hereunder.

A. Workers' Compensation and Employers' Liability

1. Coverage "A" – Statutory coverage in all states, including all areas involved in operations covered under this contract/work order.
2. Coverage "B"-Employer's Liability
    a. Limit $1,000,000 each accident
    b. Limit $1,000,000 bodily injury by disease (policy limit)
    c. Limit $1,000,000 bodily injury by disease (each person)

B. Comprehensive General Liability

1. Limits of liability $1,000,000 Per Occurrence/ $2,000,000 General Aggregate
   Per project aggregate of $2,000,000
2. Products- Completed Operations $2,000,000 limit
    - Personal and Advertising Injury $1,000,000 limit
    - Medical Expenses $5,000 limit
    - Fire Damage $500,000 limit
3. Commercial General liability Coverage/ Comprehensive General Liability Form.
4. Broad Form Contractor's Protective liability / Independent Contractors Liability
5. Waiver of Subrogation in favor of Shaw Industries Group, Inc.

C. Automobile Liability

1. Limits of Liability $1,000,000 Combined Single Limit Each Accident / Loss
2. Covered Autos: Owned, Non-Owned, Hired or Leased
3. Waiver of Subrogation in favor of Shaw Industries Group, Inc.

D. Umbrella Liability

- Limit of Liability $1,000,000 Combined Single Limit per Occurrence / Aggregate*

*Any Contractor or Vendor performing electrical, machine repairs, roofing, construction (Buildings, etc.), Common Carrier's and Environmental Remediation will be required to carry $**5 MM Umbrella Liability.**

E. Malpractice Liability

. Any Health Care Vendor that has "Hands-ON" contact with employees shall be required to carry malpractice coverage liability limits of $**1,000,000** per occurrence / $**3,000,000** aggregate.

A current certificate of insurance must be supplied naming Shaw Industries Group, Inc. as additional insured indicating the above coverage prior to execution of the Contract, Agreement, Purchase Order and/or commencement of work.

ADDITIONAL COVERAGE

The following additional insurance coverage may be required for specific projects, to be determined by the Shaw Industries Group, Inc. Project Manager. When such other coverage is required they must be written into the contract. Examples of projects that may require additional insurance coverage are work on extrusion plants expansions, or work on a capital projects.

1. If any cranes are used, riggers' liability will be required with a $2,000,000 limit.

2. Performance bonds may be requested for specific projects.

3. Cargo Policy showing value of materials furnished by contractor.

4. Certain environmental projects may require environmental impairment liability limits of $5,000,000. Coverage must be maintained without interruption form date of commencement of the work and until five (5) years following the date of final payment.

5. On certain jobs Shaw's Corporate Engineering Group or Risk Management may require general contractors to carry builders' risks "all risk" coverage for the full replacement value of the projects to include fire, theft, and transit coverage. Any polices maintained by the contractor on their own and/or rental equipment and materials shall contain a provision requiring the insurance carriers to waive their rights to subrogation against Shaw Industries Group, Inc.

6. In the event this agreement requires the contractor to provide professional services such as but not limited to, architectural engineering, construction management, surveying, design, etc., a certificate of insurance must be provided evidencing professional liability coverage with a limit of not less than $2,000,000. Any material change in limits, coverages or loss of aggregate limit due to outstanding claims must be reported to Shaw Industries Group, Inc. Risk Management within thirty (30) days of any such event.

7. The contractor or Vendor may be required to provide coverage in the amount equal to the total value of the contractor portion of a specific project.

Maintenance of said minimum insurance shall be a condition precedent to the payment of Contractor for compensation of the work or services provided to Shaw Industries Group, Inc. Failure to maintain said insurance, as required shall constitute a material breach and shall be sufficient grounds for immediate cancellation of Contract.

Please fax a copy to **(706) 428-3289**. Or forward the original certificate to:

Certificate Holder:
Shaw Industries Group, Inc.
Attn: Risk Management
PO Box 2128, Mail Drop 0WD-53
Dalton, GA 30722

If you have any question with Shaw Industries Group, Inc. insurance requirements, please contact Raymond Holt, Risk Mgt. Dept. at (706) 279-8488.

Shaw Columbia Site Hazard Communication Program for Contractors

It is the policy of the Shaw Columbia Site to make hazard information available to contractors whose employees may be exposed to hazardous chemicals while performing their work on the plant site. The hazard information will be made available to the Contractor through the plant Engineer or other responsible plant representative having direct responsibility for the job and who is administering that Contractor. Contractors will be informed of potential chemical hazards or exposures associated with particular plant locations and with any chemical materials provided by the Shaw Columbia Plant. The Contractor will be made aware of the detailed hazard information available from MSDS's, advised as to MSDS locations, and given suggestions for appropriate protective measures.

It is the responsibility of the Contractor to communicate to his employees and to any sub-contractor in his employment the chemical hazard information referenced above prior to beginning work at the Columbia Site. Section 5 contains the hazard information on the Shaw Columbia Plant's chemicals to be used by the Contractor for his employee training. The Contractor must maintain documentation that training on workplace chemical hazards and protective measures has been conducted for his employees.

Chemicals that are to be purchased by the Contractor for use on the Columbia Site must be approved through the Plant's Product Safety review process prior to being allowed on site (See Section 4). Information pertaining to the hazards and protective measures associated with these materials will be communicated to the potentially exposed employees by their employer. (i.e., Contractor instructs his employees who handle the materials; the HS&E Department and the Departments in which the work is to be performed inform those Plant employees who would be indirectly or directly exposed).

Having read the above Hazard Communication Program for Contractors and agreeing to comply with its requirements, the Contractor or his representative must sign the "Contractor's Chemical Hazard Communication Declaration" located on the next page. This signed document must be returned to the Shaw Columbia Site and be on file prior to beginning work at the Plant.

CONTRACTOR'S CHEMICAL HAZARD COMMUNICATION DECLARATION

As the duly authorized and designated representative and agent of:

Contractor Name:_____,
hereinafter called "CONTRACTOR", I hereby certify and agree for myself and on behalf of the CONTRACTOR that:

1. I have read the Shaw Columbia Site's "Hazard Communication Program for Contractors", and I understand the requirements of this program and agree that the above mentioned Contractor whom I represent will comply with this program while working on the property of Shaw Industries Columbia Plant.
2. I have been instructed and provided information by the Shaw Columbia Plant concerning the hazards of chemicals supplied by the Columbia Plant or found in the work locations in which Contractor and Contractor's agents and employees will be working or present, and I have received information regarding protective measures.
3. I have been advised that Contractor and Contractor's agents and employees may have ready access to the Material Safety Data Sheets located in the Site's HS&E Department or available from the Shaw intranet Website through Corporate Risk Management.
4. I have already instructed, or prior to commencement of any work for the Columbia Plant, will instruct all such agents and employees regarding the chemical hazards and the appropriate protective measures to be observed in regard thereto and will maintain training documentation as evidence of that instruction.
5. All necessary, adequate and operative personal protective clothing and equipment have been, or prior to commencement of any work for the Columbia Plant, will be issued to all such agents and employees, together with full instructions and training for their use.
6. I understand that prior to introducing a chemical material on-site, that chemical material must be evaluated and approved for use by the Columbia Site's HS&E Department in accordance with the Plant's established Product Safety review process.
7. Prior to commencement of any work for the Columbia Site, all applicable plant safety and occupational health procedures including employee protective clothing and equipment requirements will be put into effect and all such agents and employees will be properly supervised to ensure compliance in their use of personal protective clothing and equipment and in the strict observance of Columbia Site safety and health rules and procedures and appropriate sections of the Occupational Safety and Health Act.

_____ _____

Signature of Contractor Representative Date

_____ _____

Signature of Columbia Site Representative Date

Section 2

Safety Rules for Contractors

PLANT SPECIFIC SAFETY STANDARDS

APPROVED: YES _____
NO _____

PLANT # 8S

PROJECT NAME: _____

LOCATION OF PROJECT: _____

CHECK THOSE SAFETY ITEMS AS THEY PERTAIN TO THE INVOLVED PROJECT THAT WAS REVIEWED WITH THE CONTRACTOR (REPRESENTATIVE)

( ) Required Personal Protective Equipment:
Other:
( ) Hearing Protection
( ) Eye Protection
( ) Hard Hat

( ) Hot Work Permit: Examples: cutting, welding, grinding activities

( ) CRTK Information and location of MSDS's

( ) Lockout/Tagout Procedures: list machines covered

( ) Confined Space Entry: date sheets covered

( ) Powered Industrial Truck/Pedestrian Walkways

( ) Chemical Spill

( ) Prevention ( ) Control ( ) Countermeasures

( ) Facility-Specific SES Elements:
( ) Conformance with the Environmental Policy
( ) Significant Environmental Impacts of Work Activities
( ) Consequences of Departure from SES Operating Procedures

( ) Ladder Safety

( ) Fall Protection

( ) Location of Asbestos or Lead Containing Materials

( ) Respiratory Safety

( ) Dock Safety

( ) Emergency Action Plan

( ) Excavation/Trenching

( ) Reporting of Accidents

( ) Department/Area Specific Safety Rules

( ) Requirements For Shutting Off Water Supply To Risers

( ) Street Vehicles In Plant

( ) Smoking/Tobacco Use Policy

( ) Drug and Alcohol Use

( ) Bathrooms, Break Areas, and Parking Areas

( ) Dress Code: as it relates to work being performed

( ) Fire Arms on Property

( ) Housekeeping

( ) Personnel Clothing/Jewelry

( ) Plant Contacts/Phone Numbers For Questions/Problems:

( ) Project Mgr. Name _____ Phone: _____

Signature of Plant Representative: _____ Date: _____

Name of Contractor/Vendor Group: _____

_____ _____

Signature of Representative of Contractor/Vendor Date

SHAW CONTRACTOR SAFETY HANDBOOK

SHAW'S CONTINUOUS LEVEL OF COMMITMENT TO SAFETY

"The challenge facing each and every one of us is to be a true contributor to our total Safety process. Please understand that your role in learning, practicing and teaching safety is extremely important. Your life and the lives of others may depend on it."

Date of Issue: 6/1/2006 **Revised Date: 5/1/2011***

***Revisions are in green**

CONTRACTOR GUIDELINES:

Shaw Industries, Inc. recognizes its responsibility for providing a safe workplace for its employees and for taking steps not to create hazards for those performing work on its premises. As part of its program to fulfill these responsibilities, the following guidelines have been developed to address the potential for the creation of hazards when contractors are working at Shaw. These guidelines apply to all contractors working on Shaw property.

Prior to working for Shaw, contractors must be on the Risk Management approved list. If a contractor is not on the Risk Management Approved List, they can be added by following the instructions in the Corporate Sourcing Vendor Add Process.

Contractors must ensure that their employees and subcontractors adhere to good safety practices while on property of Shaw Industries, Inc. and that they follow all applicable safety rules and procedures in addition to those listed by Shaw Industries, Inc.

At a minimum, contractors must meet OSHA or applicable state regulations. When Shaw SAFE Standards exceed OSHA or state regulations, the contractor (and any subcontractor) must follow the Shaw SAFE Standard (unless noted in the Variance Section of this handbook). Shaw Risk Management will have the final authority on any variances between applicable regulations and the Plant Safety Standards. The Shaw Project Manager is responsible for assuring that any additional program requirements are communicated to the contractor in advance of the commencement of work. **Shaw reserves the right to request and evaluate any training or documentation required by OSHA or Shaw.**

If a contractor is unable to resolve a safety issue created or maintained by Shaw or another contractor on Shaw's property by working through the Shaw Project Manager and/or Plant Manager, the contractor should take immediate steps to prevent its employees from exposure to the hazard and should immediately contact Shaw Risk Management. Whenever there is a reference to "OSHA regulations" within these guidelines, such reference should be understood as including any applicable state or local regulations to the extent such exceed the requirements of the OSHA regulations.

This Contractor Handbook is a guideline of policies and procedures. This document reflects and summarizes several actual policies and contractual requirements; however, this handbook is not a legal document.

ALCOHOL AND DRUGS

No one shall be under the influence of alcohol, drugs or any other substance, which may impair work performance or jeopardize safety, when reporting to work or while on the job. This may include certain prescription medications in safety sensitive jobs.

BODY MECHANICS

Use appropriate body mechanics when lifting. Know your employer's lifting and ergonomic requirements. Contractors are responsible for training employees on appropriate lifting techniques.

CHEMICAL SAFETY INFORMATION

At Shaw, the products are the result of many steps that involve the skillful application of chemistry and physics. Some of the manufacturing processes require the use of hazardous substances that may be classified as corrosives, solvents, flammables, combustibles, toxins, and explosives. Special precautions and controls are necessary to ensure the safety of Shaw employees and contractors.

CHEMICAL RIGHT TO KNOW:
Contractors are responsible for ensuring that their employees and subcontractors receive Chemical Right to Know (Hazard Communication) training prior to working at Shaw. This training must meet or exceed OSHA (29 CFR 1910.1200) requirements.

CHEMICAL APPROVAL/MSDS:
A Contractor "Chemical Use Request" form must be obtained from the Plant and the chemical use must be approved prior to bringing the chemical onto any Shaw site. Contractors are required to provide MSDS information to Shaw Plant Safety and Training Manager for all chemicals brought on site a MINIMUM of 7 working days prior to starting the job. The Safety Training Manager or other designated employee will provide specific chemical approval procedures or any exceptions.

Any chemical that will be used in the construction process must be approved by the plant prior to bringing it on to the site.

COMPRESSED GAS CYLINDERS
Compressed gas cylinders must be secured in an upright position at all times with valve protection caps tightly secured when not in use. Gas cylinders and carts must be chained to structure, not utilities, to reduce uncontrolled movement. Large (D style) cylinders must be transported in either two or four wheel cylinder carts. Smaller (B style cylinders or lecture bottles) must be carried in an approved hand-held cylinder carrier. Cylinders must never be dropped, rolled, or slid. Storage locations must be approved by the Shaw project manager. This area must be properly labeled and appropriately segregated.

CONDUCT
Contractors are expected to perform their work while maintaining a high level of professionalism. Contractors will be held to the same standards expected from all Shaw employees. Horseplay or similar behavior is prohibited at all times. Compliance with all warning signs is required.

CONFINED SPACE
Contact the Plant Safety Training Manager prior to entering a Permit-Required Confined Space. Contractors needing to enter confined spaces must have and follow a confined space policy, which meets or exceeds OSHA 1910.146 (c) (4). It must be available for review by Shaw any time work involves entering a confined space on Shaw premises. Shaw has a Confined Space Policy, and signs are posted at all areas that are permanently designated as Permit-Required confined spaces.
Depending on the work being done or any change in normal procedures or situations, other areas may be designated as Permit-Required confined spaces. Contractors must contact the Plant Safety Training Manager for a pre-job safety review prior to entry into any Permit-Required confined space.

Contractors are responsible for providing confined space rescue equipment and rescue services for any operations that they conduct.

CONTROL OF HAZARDOUS ENERGY (LOCKOUT/TAGOUT)
The lockout/tagout procedure covers any piece of equipment, which contains energy including electrical, mechanical, chemical, thermal, hydraulic, gravitational and spring-loaded. Before doing servicing or maintenance work on a piece of equipment, each individual must lock and tag out all the energy sources supplying that equipment.

Absolutely no "group" or "custodial" locks will be used unless approved by the Shaw Project Manager. "Supervisory" locks may be used by Shaw Management to shut down the system or facility, but these locks do not replace any individual lock and tag requirements. Contractors must ensure that work on any equipment or line does not result in a release of material, which would constitute an environmental spill, or release. The cutting or removal of chemical tanks – including all associated supply or discharge pipes, must be supervised and/or approved by the Shaw Project Manager or their representative. The use of the Shaw System or equivalent is recommended. Contractors are responsible for their employee's compliance with the LOTO standard.

CONTROL OF UTILITIES

Due to the severe business impact of unscheduled utility interruptions, contractors must not under any circumstances operate any switch or valve used to control building services, processes, or equipment without direct authorization from the Shaw Project Manager or the Shaw Plant Manager or designee. The Shaw Project Manager will confirm and authorize all plans for disconnecting production and facility equipment.

CRANES, DERRICKS, AND HOISTS

The contractor must certify Cranes, derricks, and hoists as being in safe operating condition prior to using them on site. Trained and certified personnel must inspect as per manufactures recommendation and as per OSHA standards this equipment. Certification must be maintained by the contractor and made available to the Shaw Safety Training Manager or other Shaw Management upon request.
Areas surrounding cranes must be barricaded whenever cranes are in use.

Shaw requires that the contractor will use certified crane operators, qualified or certified as per OSHA standards.

DAMAGE TO FACILITIES

Contractors are responsible AND accountable for work performed at Shaw. Contractors need to protect walls, floors, ceiling, doors, equipment etc. from any damage related to construction or operations. All damage to buildings, grounds, lawns, equipment and other areas that results from project work, whether negligent or not, will be the responsibility of the contractor to correct. The Shaw Project Manager shall be advised immediately of all damage.

DISPOSAL OF TRASH, WASTE & SCRAP

All trash, waste and scrap must be placed in approved and properly marked containers provided by the contractor. All waste is to be disposed of in a manner approved by Shaw Environmental. Do not allow dumpsters to block fire exits, fire lanes, or traffic areas.

ENERGIZED ELECTRICAL WORK

Energized Electrical Work is any electrical work done while the unit is energized and the potential for worker contact exists. EEW must be performed only after all other alternatives have been exhausted. The electrical contractor is responsible for developing safe work practices and procedures to protect workers from potential electrical shock. A detailed permit or procedure, developed by the contractor, must be available for Shaw approval at the work site (the Shaw SAFE forms can be used by the contractor). **All exposed energized components must be cordoned off with cones, tape or signage to alert unauthorized personnel to avoid the area.**

All panels that protect energized components must be reinstalled and secured before the area is left unattended.

ENVIRONMENTAL MANAGEMENT SYSTEM (SMS)

All contractors are expected to perform their work in a manner that is protective of human health and the environment. All contractors whose work or activities and services at a Shaw Facility could create a significant environmental impact are required to have appropriate Shaw Environmental System (SES) awareness training.
During the SAFE Contractor Safety review contractors are required to have appropriate SES program awareness training. Contractor Management is required to assess how the activities performed at a Shaw facility may impact the environment and take efforts to minimize those impacts. The awareness will include communication of a Shaw facility's Environmental Policy and Significant Environmental Impacts, potential impacts to the environment associated with your work, and consequences of departure from specified procedures.

ELECTRICAL WORK

All electrical project work must comply with pertinent provisions of the National Electrical Code (NEC), ANSI, OSHA, and Shaw Specifications. All electrical devices must be properly grounded and maintained in good repair. All wire capacities must be appropriate to their use and meet or exceed all codes. No electrical work may be performed without the prior approval of the Shaw Project Manager and Plant system owner (Plant Engineer or Plant Manager). Electrical Work Notification (EWN) may be required at some plants, contact your Shaw Project Manager for information.

Red Danger tape- must be used to identify electrical hazard areas. Yellow Caution Tape must not be used to identify electrical hazards.

EMERGENCIES / EVACUATIONS

Contractors are responsible for reviewing and knowing evacuation routes and assembly areas. Each facility will have its own methods of emergency warning and established evacuation procedures. Contractors are responsible for knowing and following these procedures. Upon hearing the alarm, immediately leave the building through the nearest exit. Do not stop to remove protective clothing, or for any other reason. Be familiar with all entrances and exits to and from work areas. Know the location of your crew's assembly areas and proceed to the proper area. In all cases, follow the instructions and directions given by Shaw personnel.
Should you observe an emergency (e.g., fires, smoke, medical emergency, gas leak, chemical spill), immediately call the emergency number for the facility or area. In the event of a building evacuation, immediately evacuate through the nearest exit and report to the designated assembly point.

ENVIRONMENTAL, HEALTH, AND SAFETY

For additional information or explanations of Shaw's policies, guidelines, procedures, or site hazards, contact Shaw Risk Management Environmental or Safety Department.

EXCAVATION AND TRENCHING

Prior to opening any excavation or trench, the contractor shall notify the Shaw Project Manager. If the trench or excavation is going to be over 5 feet deep, trench boxes or other means must be provided for worker safety. Utility locates are required prior to any trenching or excavation. All trenches and excavations must be properly barricaded, marked, lighted, shored, or sloped in accordance with OSHA regulations. (Refer to your company's safety program requirements). *NOTE: Such sites*

may be considered Confined Spaces for purposes of entry. See Confined Space OSHA 29 CFR 1910.146 (c) (4).

Excavations or Trenches over 5 feet deep, must be inspected at least daily with a documented inspection form used.

FALL PROTECTION

All contractors on Shaw premises must use fall protection such as lifelines, warning lines or railings when working within 15 feet of open-sided roofs, ledges, catwalks, unprotected skylights, or when parapets are less than 39 inches high. When contract employees perform work exposing them to a fall in excess of 6 feet measured from the sole of their shoes, the contractor is responsible to assure that all applicable OSHA construction standards (Subpart M) and Shaw Fall Protection Program are met and followed.

Use of articulating lifts will require fall protection at all times as per OSHA construction standards (Subpart M). The use of scissor lifts will require fall protection in the event one or both feet leave the deck of the lift or as per the lift manufacturer's requirements. At no time are employees allowed to stand on the top rail of any lift.

Railings, fall restraint devices, safety harnesses and lanyards, or other appropriate fall protection must be in place and used.

A Qualified Person must approve the use of personal tie-off anchor points. Under no circumstances should utility support structures, piping or racks be used for this purpose without the evaluation and approval of a Qualified Person.

Use of Shaw fall protection equipment by contractors is strictly prohibited (there are no exceptions to this rule)!

FIRE SPRINKLER SYSTEMS IMPAIRMENT

Contractors shall not tamper with, operate any fire system, or sprinkler controls unless authorized to do so by the Plant fire protection system owner. When a shutdown of the system is necessary, the Sprinkler Impairment Procedure; which involves attaining a red tag permit issued by Plant, will be followed. All protection systems will be restored to service as soon as possible but at least by the end of the day. If this cannot be accomplished, Shaw Risk Management must be contacted for approval. Certain flame or burn work may require the contractor to have a fire extinguisher within the immediate work area and in some cases cannot be conducted without the automatic sprinkler system in service. Refer to Shaw Hot Work Program for details.

FIRST AID

Contractors are responsible for providing first aid kits and materials for their jobsite. Report all injuries immediately to the Shaw Project Manager or Plant Manager.

FORKLIFT OPERATION

Forklifts, electric carts, and material handling equipment and training must comply with OSHA standards. Exercise caution while operating vehicles around pedestrian traffic in both internal and external areas of buildings. Pedestrians ALWAYS have the right of way! When a load is being moved more than 5 feet, the contractor is required to have an attentive spotter monitoring the lift or travel. A pre-job safety inspection of all forklifts, scissor lifts, electric cars, etc. must be completed and must include the operation of all safety features.

Only trained and certified personnel are allowed to operate LT's or any other motorized equipment on Shaw facilities. Operators must have a current license for the equipment being operated.

Contractor use of Shaw forklifts or any arial lifts either owned or rented by Shaw, is strictly prohibited (there are no exceptions to this rule)!

FLAMMABLE LIQUID AND HAZARDOUS CHEMICALS:
Flammable liquids (flash point below 100°F/38°C) must not be used or stored inside Shaw buildings unless contained in a Factory Mutual or Underwriters Laboratory (UL) approved flammable container. Capacity cannot exceed one gallon, and it must be stored in an approved flammable liquid cabinet when not in use. All chemical containers must be labeled with OSHA approved 29 CFR 1910.144 (a) (ii) labels that indicate contents (including water).

FLAMMABLE/HAZARDOUS VAPORS:
Flammable vapors must be controlled to avoid hazard to workers.
When vapor-producing materials are used, adequate ventilation must be provided. The ventilation must prevent the build-up of noxious fumes that could result in either a health or a fire hazard. If this requirement is not met to the satisfaction of the Plant or Project Manager, work will stop. Shaw will schedule the project to restart when the area is adequately controlled against fire and health hazards. All odor-producing activities must be reported in advance to the General Contractor and to the Shaw Project Manager so that appropriate notices may be given to Shaw employees in the affected area.

KEY CRITERIA:
The contractor is responsible for monitoring the area to ensure everyone's safety.

If .... vapors of a flammable liquid reach a dangerous concentration, which means they:

1) reach 10% of the lower explosive limit (LEL) of the liquid used, or

2) reach the OSHA Permissible Exposure Limit (PEL), or

3) reach the ACGIH Short Term Exposure Limit (STEL), or

4) reach the **ACGIH Threshold Limit Value (TLV)**

Then .... operations must cease until controls have been put in place to make sure the area is at a safe level.

Any chemical that will be used in the construction process must be approved by the plant, prior to bringing it on to the site.

FIGHTING/ THREATS
The offender's will be removed from the job and barred from any further work at Shaw facilities.

GROUNDING
Either ground fault circuit interrupters (GFCI's) and/or an assured equipment-grounding program shall be used on all construction projects at Shaw. This is to include every extension cord and power tool, which is plugged into an outlet not part of the permanent structure of the building. Contact the Shaw Project Manager with any questions relating to assured grounding programs and procedures.

Any extension cords used must have GFCI protection built-in or attached. The use of home-made extension cords or outlet boxes is prohibited.

HARASSMENT
Contractors shall not engage in any form of harassment towards anyone while working on Shaw premises. Shaw is committed to maintaining an environment free of harassment for everyone working at or visiting Shaw facilities. Harassment is defined as "behavior that offends other individuals on the basis of sex, race, religion, national origin, sexual orientation or other protected basis, and undermines the individual's morale, interferes with working relationships and undercuts the individual's ability to work effectively."

HAULAGE VEHICLES
Haulage vehicles (dump trucks, ready mix rigs, etc.) operating on Shaw property must be equipped with audible alarms that sound continuous warning that the vehicle is backing (standard pick-up trucks are not included). All vehicles (including pick-up trucks) must use wheel chocks when parked on Shaw loading docks.

HOISTING AND RIGGING

Critical Moves - All projects that involve the use of a crane or boom truck require that a rigging plan be submitted to Shaw (typically the site's Plant Engineer or Maintenance Manager) for review. For other projects that involve overhead lifting methods without the use of a crane or boom truck, the contractor may submit a rigging plan to Shaw for review. For any plan submitted by a contractor that is not accepted, by the Plant Engineer / Maintenance Manager, or if a plan is not submitted, the contractor must obtain a permit from a Shaw authorizing person, before conducting any critical moves. Contractors shall be required to follow all OSHA and other applicable regulations in conducting the move(s).

Contractors must use a qualified rigger for rigging operations and during assembly/disassembly.

HOT WORK- Electrical
Refer to **Control of Hazardous Energies (Lockout/Tagout)** for procedures involving equipment, which contains electrical, mechanical, chemical, thermal, hydraulic, gravitational or spring-loaded energy.

Refer to **Welding and Flame Work (Non-Electrical Hot work)** for work involving open flame, excessive heat or spark-producing equipment.

HOUSEKEEPING
All work areas must be maintained and cleaned on a daily basis. Some areas may require "clean as you go" and vacuum during cutting and drilling. Be sure to work in a manner that will minimize and control noise, dust, and dirt. Clean up and haul away trash, scrap, excess material, and other debris at frequent and daily intervals. Ensure adequate receptacles are available to store paper and other waste materials created by the projects. If in doubt, refer to OSHA 29 CFR 1910.141 (a) (3) on housekeeping as a minimum criterion.

INCIDENT REPORTING
Contractors must notify the Shaw project manager**, or plant management immediately** any occupational injury/illness, **near misses or property damage.**

I
NCIDENT INVESTIGATIONS
Any incidents and serious near miss incidents on Shaw property may be investigated jointly by the contractor, Shaw Project Manager and Plant Management. Shaw Risk Management may participate as circumstances warrant. The incident scene and materials must be carefully preserved by the contractor and Shaw Project Manager, until the investigation is complete.

INTERNAL COMBUSTION ENGINE USE
Internal combustion driven equipment is prohibited in occupied buildings or within 50 feet of an occupied building without express approval from Risk Management **or Corporate Engineering who will assure that proper ventilation is in place prior to use.** Air or electrically powered equipment shall be used whenever possible. When internal combustion powered equipment is needed, the Shaw Project Manager and Plant Safety and Training Manger will determine the necessary requirements. Current muffler, exhaust, and maintenance documents are required prior to equipment use. These documents must be onsite and available for review whether the equipment is rented, leased, or operator owned.

JOB SITE ORDERLINESS and CLEANLINESS
Keep work areas, walkways, fire exits/lanes and stairs clear of debris at all times. Store all materials, equipment, and tools in an orderly manner. Materials not needed for near-term use must be stored in approved staging areas.

LADDERS
Ladder usage will conform to OSHA regulations. Use the proper height ladder for the job and never stand on the top step of the ladder. When stored upright, ladders are to be secured with a chain or rope to a structural member, not utilities or utility racks. When stored on the ground ladders must be on edge (never flat) and coned off to prevent a tripping hazard. The area around the ladder and where work is being done must be marked with 12-inch cones as a minimum. Contractors must provide fiberglass ladders to their employees for use on site.

Aluminum ladders are prohibited from being used in the plant to conduct any electrical or electrical related work.

ODOR AND NOISE PROTOCOL
Notify the Shaw Project Manager if work has any possibility of generating odors or creating noise. Approval and notification methods must be determined and coordinated with the Shaw Project Manager and the Shaw Plant Management. Odor-causing work must be scheduled in advance and communicated through the Plant.

OSHA INSPECTIONS
Contractors will notify the Shaw Project Manager of any OSHA inspection of the contractor. Any violations and fines incurred by the Contractor shall be the contractor's sole responsibility. At a minimum, contractors must meet OSHA regulations. Where Shaw Standards exceed the minimum standards, they must be incorporated into the contractor's program. The Project Manager is responsible for assuring that any additional program requirements are communicated to the contractor in advance of the commencement of work.

OVERHEAD WORK
While working above employees on another exposed level or open floor, the area below the work must be cordoned off and marked with signs. When personnel are working below, they must wear appropriate head protection.

PARKING
Contractors must park in contractor-designated parking spaces only. Contractors must not park in Visitor, Customer, Handicapped parking designated spaces, or in identified Fire Zones. Posted site traffic rules must be observed at all times, and speeds are not to exceed fifteen (15) miles per hour unless otherwise posted.

PERSONAL PROTECTIVE EQUIPMENT (PPE)
Safety requirements at Shaw include the use of Personal Protective Equipment (PPE). Appropriate PPE is required for job safety. All contractors working on Shaw premises are required to follow the specific requirements of the area in which they are working. PPE such as hard hats, safety glasses, leather shoes, hearing protection, gloves, and acid gear, may be required depending on the work or work area. Check with the Shaw Project Manager or General Contractor to identify the proper personal protective equipment for the job.

Proper PPE is the responsibility of the contractor, Shaw is not responsible for providing this protective equipment and the use of any Shaw PPE is strictly prohibited.

POWDER ACTUATED TOOLS
The use of powder-activated tools is prohibited in Shaw buildings. The use of such tools by the Contractor may be given consideration in special cases only after careful review by the Shaw Project Manager and the Risk Management Department. Full compliance with Federal, State, and OSHA Regulations must be met. (Example 22 caliber nail gun)

ROOF
Access to roof areas is restricted. Obtain prior approval from the Shaw Project Manager before accessing any roof area. Items shall not be dropped from the roof to the ground under any circumstances.

SAFETY SHOWERS AND EYE WASHES
When using a safety shower or eyewash, remove all contaminated clothing, flush with water until help arrives or a minimum of 15 minutes and call out for assistance. Flushing the contaminated area can make the difference in a minor exposure and a major injury.

Safety showers and eyewashes are for emergencies ONLY. Do not block these showers and eyewashes, and do not dispose of anything down these drains.

SAFETY VIOLATIONS:

First Offense - The job supervisor will be notified that a violation of safety rules or policy was observed. A written warning will be sent to the general manager or owner of the company.

Second Offense - The repeat offender and job supervisor will be removed from the job. A meeting will be held with Corporate Risk Management, Corporate Engineering and the Plant Management to discuss the issue and develop a corrective action plan.

Third Offense - The contractor could be dismissed from the current job and/or be notified that he/she would not be considered for future projects.

SCAFFOLDS

All scaffolding must comply with OSHA regulations and established standards. Shaw does not recognize any "temporary" scaffolds. Footing or anchorage for all scaffolding must be sound, rigid, and capable of carrying the maximum intended load without settling or displacement. Any part of a scaffold weakened or damage must be repaired or replaced immediately. **Scaffolds must have a documented inspection prior to use and daily using the procedure below.**

Scaffold Tagging and Inspection:

1. Inspection and tagging of the scaffold is to be performed by a competent worker experienced in the erection of scaffold.
2. A unique scaffold identification tag number must be clearly identified on all tags for tracking purposes.
3. All scaffolds shall be inspected after the erection as per the Occupational Health and Safety Act requirements.
4. All scaffold identification tags will be of a solid green, yellow, or red color with black lettering.
5. All scaffold identification tags will have the front information displayed and must be completed for each tag.
Date Erected / Tagged, Inspected By: Name (print & signature), Inspection Date, Department or Group Responsible for Erection/Maintaining/Dismantling on the reverse.
6. It is common practice but not required to use the following color schemes:

Green - tags will be hung on scaffolds that have been inspected and are safe for use. A green "SAFE FOR USE" tag(s), and should be attached to the scaffold at each access point after the initial inspection is complete.

Yellow - "CAUTION" tag(s), will replace all green "Safe Scaffold" tag(s) whenever the scaffold has been modified to meet work requirements, and as a result could present a hazard to the user. This tag indicates special requirements for safe use. The tag as a minimum requirement will have:

- The unusual or potential hazard marked on the reverse.
- The preventative measures that must be taken prior to use to mitigate the hazard marked on the reverse.
- The name of the client company representative authorizing the use of the Yellow tagged scaffold.
- The yellow tag should not to be removed until the scaffold has been returned to a safe condition and an inspection by a "competent person" has been completed. Based on the results of that inspection the appropriate tag (red or green) will be hung on the scaffold and the yellow tag removed.

NOTE: Use of the "yellow tag" status is not intended to override the green tag system. All efforts should be made to return the scaffold to a "Green Tag" status as soon as possible.

Red "DANGER – UNSAFE FOR USE" tag(s), will be used during erection or dismantling when the scaffold is left unattended and replace all green "Safe for Use" tag(s) or yellow "Caution / Hazard " tag(s) in the event a scaffold has been deemed unfit for use. The tag(s) as a minimum requirement will include:

- The work order number or project number, the inspection date and the name of the person who performed the inspection filled in on the front of the card.
- The designation, under erection, being dismantled, and repairs required or overhead protection only, marked on the reverse.
- Scaffold re-inspections must be completed any time when conditions may have changed causing the integrity of the scaffold to be suspect

Scaffolds must have a documented inspection at least daily. Contractor use of scaffolds owned or rented by Shaw is prohibited.

SCISSOR LIFTS/MOBILE ELEVATED WORK PLATFORMS

All Lifts or Mobile equipment brought onto the Shaw facility by a contractor must be equipped with double-action motion controls. A daily operational checklist must be completed and posted on the lift prior to operation. Operators must have a verification of training on their person during all lift activities.

Use of articulating lifts will require fall protection at all times as per OSHA construction standards (Subpart M). The use of scissor lifts will require fall protection in the event one or both feet leave the deck of the lift or as per the lift manufacturer's requirements. At no time are employees allowed to use stand on the top rail of any lift.

Contractor use of Shaw Lifts and Mobile Equipment (either owned or rented by Shaw) is prohibited.

SIGNS AND BARRICADES

Work areas must be properly barricaded and properly marked by the contractor. The Shaw facility may also provide such signs and barricades, and contractors must adhere to these as well. Barricades of any kind, whether made of wood, ribbon, tape, or some other material, must not be violated. The contractor must provide all safety signs, barricades, stanchions, safety cones (minimum 12 inches high), or safety taping as required to isolate the work area from pedestrian traffic. All signs, barricades, etc. must be removed by the contractor when the hazard no longer exists.

Use of Tape to mark areas

Red Danger tape- is used to identify danger. Items that should be identified with red include containers of flammable liquids, electrical work areas, barricades and obstructions. Red also signifies stop points.

Yellow Caution Tape- is used for signifying that caution is needed. Yellow is also used to mark physical hazards. Potential hazards include dangers of falling, stumbling or becoming caught or trapped.

SMOKING/TOBACCO

Smoking and tobacco use on the grounds, parking or other areas of any Shaw facility is prohibited.

Carrying smoking paraphernalia or material, is prohibited at any facility designated as a combustible dust location. At present this includes SI/SP, All Laminate and Hardwood Facilities.

SPECIAL HAZARDS AND CONDITIONS

Avoid using equipment and tools that produce excessively high noise levels (85 db or over) in occupied areas during working hours. Small jobs that can be done in 15 minutes or less will be the only exception, provided prior approval is obtained from the Shaw Project Manager.

Lights or portable tools used or carried into hazardous locations must be listed and approved for the location. Affected hazardous locations will be determined by the Shaw Project Manager.

No electrical outlets may be used without prior approval by the Shaw Project Manager or Plant Manager. Designated construction tool power outlets, properly marked as such, may be provided by Shaw.

SPILL PREVENTION

All contractor equipment, including rental equipment, must be maintained, inspected and operated in a manner that prevents fluid spills.

Care must be taken to use absorbents, catch pans, etc. as needed to prevent release of oil, chemicals, or contaminated wash water to the floor, the land, or water.

SUBCONTRACTORS

The general contractor is responsible for his/her subcontractors. Any violation by the subcontractor is considered a violation by the general contractor.

TOOLS AND EQUIPMENT

Contractors must ensure the safe operation of all tools. Contractor tools are subject to inspection by Shaw Project Manager or his/her authorized representative.

Contractors will furnish and be responsible for their own special tools or equipment* including any rental type equipment *and shall not use Shaw's tools and equipment.

Contractor employees must be trained and familiar with any rental equipment in use. The operator must inspect contractor tools and equipment daily before use. Equipment must be operated in strict accordance with manufacturers' instructions and any applicable regulations. Copies of inspections and certifications must be maintained on site by the contractor and provided to Shaw upon request.

TRAFFIC SAFETY

Contractors, subcontractors, and suppliers will use only the Contractor's Entrance where one has been designated as such. Shaw traffic and parking signs must be observed.

Trucks/trailers and cranes will be parked in designated staging areas pending loading/off-loading/use and will not block normal or emergency roads without prior coordination with Shaw.

TRAINING

Shaw requires that each contract employee have adequate training in any task before beginning work on a specific task. The contractor company shall train its employees in all applicable areas such as safety, work practices, hazardous material control, emergency response, etc.

WEAPONS

No weapons (including fixed blade knives) shall be brought onto Shaw premises. This includes contractor-parking areas.

WELDING AND FLAME WORK (NON-ELECTRICAL HOTWORK)

A Hot Work Permit is required any time work involves open flame, excessive heat or spark-producing equipment. This includes welding, cutting, burning, grinding, and soldering operations. The Shaw Project Manager can explain any hazards in the work area and provide the required permit. Use fire prevention and control equipment, including fire blankets, extinguishers and exhaust fans, as needed. This equipment shall be provided by the contractor. Any flame work must be pre-approved with a posted Hot Work Permit at the job-site. Under no circumstances will flame work occur in any areas where solvents or hazardous chemicals are being used or if the Automatic Sprinkler system is impaired. Contractors must ensure that work on any equipment or line does not result in a release of material, which would constitute an environmental spill, or release. The cutting or removal of chemical tanks – including all associated supply or discharge pipes, must be supervised and/or approved by the Shaw Project Manager or their representative. The use of the Shaw System or equivalent is recommended.
It is the contractor's responsibility for providing the fire watch. A fire watch will be utilized every time a hot work permit is issued. The person assigned as the fire watch will have no responsibility other than watching for sparks, ignition, or other signs of fire. The fire watch will perform this duty for the entire time that the hot work is being performed and for sixty minutes after the work is completed. If the hot work is stopped and restarted (during lunch beaks, etc.), the fire watch must continuously watch the area for sixty minutes after each time that the work is stopped. The person serving as the fire watch must be trained to use the respective fire extinguisher and any other fire extinguishing methods that could be utilized.

The fire safety supervisor will check the area periodically for three hours following the last inspection by the fire watch. After this time period, the fire safety supervisor will conduct a final inspection, sign the hot work permit indicating that the area is safe and file the permit. The initial fire safety supervisor may appoint a trained fire watch or another fire safety supervisor to monitor the area for the three hours.

VARIANCES

Shaw Risk Management has pre-approved the following:

Powered Industrial Truck Training- Contractors will be required to meet OSHA requirements (3-year re-evaluation/license). The Shaw annual retraining requirement only applies to Shaw Personnel.

All PPE that meets applicable current ANSI standards are permitted for use. Shaw does specify certain PPE requirements (such as Safety Glasses, which are limited to a few types) but as long as PPE is ANSI approved, and adequate for the hazard, the contractor is not required to use the Shaw designated PPE.

Temporary Employees will be treated as Shaw employees and can operate/use Shaw equipment and tools as long as they have been trained to the same level as a Shaw employee on that equipment.

Other variances or other modifications to this handbook may be allowed with the written approval of a Shaw Risk Management Corporate Safety Manager by utilizing, the Variance Form Process included as part of the SAFE System.

Contractor Receipt Verification

I, ……
(Name – Please Print) *(Position Held)*
of ……
(Contracting / Consulting Company Name)
……
.
……
.
(Company Address)
……
.
(Telephone) *(Fax)* *(Mobile)*
……
.
(Email Address)
……
.

I acknowledge that I have received a copy of the Shaw Contractor Safety Handbook and I will ensure that my Sub-Contractors and employees are advised of, fully understand and will abide by the Contractor Safety and Health Policy, Contractor Safety Handbook and other instructions while working on Shaw facilities.

……
……
(Signature) *(Date)*
……
……
(Responsible Officer's Signature) *(Date)*

Plant should maintain a copy of this for contractor file.

Notice to Contractors

Subject: Heat Stress Awareness

To: Contract Employees

From: Shaw Columbia Plant HS&E Department

The Shaw Columbia Plant has ambient conditions within its Polymer production areas and outdoor locations that present the risk of heat related disorders and illness. These heat stress conditions are unavoidable by nature of the Plant's hot polymerization process temperatures and elevated climatic summer temperatures and humidity. The Columbia Plant has an established heat stress management program designed to reduce the risk of workers developing heat-related illnesses. An integral part of this program involves educating Site workers as to the signs and symptoms of heat stress, the appropriate first aid measures to apply, predisposing factors that increase an individual's susceptibility to developing heat stress, and precautions for working when heat stress conditions exist.

As part of the Contractor Safety Orientation package for the Shaw Columbia Site, the Contractor must inform his employees of the following Heat Stress information:

1. Signs / Symptoms / First aid:

Heat Cramps: Painful cramps of the muscles in legs, arms, or stomach caused by heavy sweating and loss of minerals. (Move to shade or cool area, drink fluids, and rest).
Heat Exhaustion: Fatigue, nausea, loss of coordination, headache or dizziness caused by failure to replenish body fluids and minerals. Sweating continues but skin is pale, cool and clammy. (Move to shade or cool area, drink fluids, use cool compresses on forehead, neck and armpits. Rest)
Heat Stroke: Sweating stops, internal body temperature soars. The body's heat regulation system fails. Hot, red or flushed, dry skin. Rapid pulse, headache or dizziness, confusion, possible convulsions, loss of consciousness, and coma. (A medical emergency….call for medical help right away. Immediately begin lowering the body temperature with cold water, wet towels, fans, ice.)

2. Drinking Water:

Since most heat related disorders are due to a loss of body fluid, it is essential that workers replace sweat by regularly drinking water or drinks such as "Gatorade". It is recommended that when sweating, a worker should drink 7-8 ounces of water every 20 minutes.

3. Acclimation:

The body goes through a natural acclimation process to adapt to the heat. The process takes about 7 – 10 days. Individuals not used to working in the heat or those returning from vacation will not be able to work at the same pace as acclimatized workers. It is essential that all workers pace themselves, listen to their bodies, and take breaks in cool areas as needed.

4. Rest Areas:

Providing cool rest areas in hot work environments reduces the stress by lowering body heat. Alternate work / rest schedules are necessary. Shorter but frequent work – rest cycles are greatest benefit to the worker. Workers must pace themselves individually.

5. Predisposing Factors:

Everyone must be aware of factors that can put individuals at greater risk of heat stress illness. Examples: obesity, poor physical condition, infections, fever, sickness such as flu, diarrhea, and vomiting (dehydration), recent use of alcohol and drugs within 24 hrs., certain medications such as diuretics, blood pressure and allergy medicines, heart disease, diabetes, loss of sleep, or increasing age. Sufficient sleep and good nutrition are important for maintaining tolerance to heat.

6. Salt

Taking salt supplements or tablets is not recommended. The normal diet has enough salt in it, but if an individual sweats continuously, it may be beneficial to use extra salt at the table.

7. Other:

When feasible and applicable, the more stressful tasks should be performed during the cooler parts of the day (early morning or late evening). Loose, lightweight clothing will permit easier circulation of air on the body and is advisable as long as it does not present a safety hazard. Use of impermeable protective clothing such as vinyl slickers will result in rapid buildup of body heat and should be used with caution. Avoid their use in the direct sun.

Section 3

Environmental Protection Requirements

Environmental Program and Requirements

Columbia Plant 8S Environmental Program

The Shaw Columbia Plant 8S is committed to environmental excellence through our Shaw Management System **(SMS)** process. Our site Environmental program requirements are designed to:

- Prevent pollution and reducing waste
- Continually improve our operations and activities
- Comply with legal and other environmental requirements, programs, and policies.

Contractor Awareness

We ask that while you are performing work or just visiting this site, you understand and comply with our environmental program requirements and that you assess how your activities at our facility may impact the environment. You are required to take preventive measures to minimize and control those impacts.

The more significant environmental impacts to this facility would involve:

1. A chemical or contaminant entering any of the plant drains. These drains lead to streams which flow either into the Saluda River or to our Plant wastewater treatment facility. Consequences of chemical contaminants entering these drains could cause fish kills, pollute the river, or upset our wastewater treatment process and possibly shutting down the Plant. Contaminants entering the streams would violate State and Federal Regulations.
2. Spillage, disposal or dumping of chemical products onto the ground would contaminate the soil, could cause contamination of ground water, and would violate Solid and Hazardous waste regulations.
3. Creating air emissions or odors which would enter the atmosphere could violate Air Pollution regulations and create on-site and/or offsite exposure concerns.
4. Damaging facility equipment and structures such as chemical and fuel storage vessels and their supply lines, PCB containing electrical equipment, chemical containment installations, pollution control devices such as roof top air scrubbers, and disturbance of asbestos containing materials such as thermal system insulation. Should any of these occur, the impact to the environment would involve those mentioned in items #1 through 3 above.

Contractor Environmental Rules

Air Pollution:

1. Open burning is prohibited.
2. Minimize the creation of dust.
3. Removal or disturbance of any insulation or other asbestos containing material is prohibited and must be coordinated with the site HS&E Department through your plant representative.
4. Any equipment other than standard fuel burning engines, spray painters, and welders that emit to the atmosphere, or emit a malodorous substance, must be approved by the HS&E Department.

Noise Pollution:

5. Engine exhausts must have an effective muffler.
6. Noise producing equipment or operations should be shielded to deflect noise away from residential areas.
7. Limit operation of noise producing equipment outside of buildings to daylight hours unless approval is obtained from the HS&E Department.
8. Site HS&E Department must approve detonations.

Water Pollution:

9. Disposal of chemicals, oils, paints, solvents, grease, cutting oils, etc., or cleanup of an area by washing down into any of the plant drains is forbidden.
10. Storm drains are to be temporarily sealed and absorbent kept near by when using portable cranes, air compressors, or hydraulically operated heavy equipment.
11. Approval from your plant representative must be obtained prior to work on any type of drain.
12. Use of plant ditches for disposal of clean up of areas or equipment is forbidden.
13. Disposal of any chemicals, oils, etc. by open dumping is forbidden.
14. All spills must be immediately reported to your plant representative.

Solid / Chemical Waste:

15. The handling of any wastes to be generated as a result of your work on site is to be discussed and resolved with your plant representative prior to commencement of the work activity.
16. Waste chemicals are to be placed in appropriate containers and properly labeled. All chemical waste generated by the contractor / vendor is the responsibility of the contractor / vendor and shall be disposed of in accordance with local, state, and federal laws.
17. Empty chemical or oil drums generated by the contractor / vendor are the responsibility of the contractor / vendor and are to be removed from the site by the contractor / vendor.
18. Solid waste and ground litter is to be placed in solid waste receptacles only.
19. Dirt removed by construction / excavation activity is to be placed in prescribed areas only.

Departure from following the above requirements could result in contamination and damage to the environment and property, the creation of unnecessary waste, violations of local, state and federal regulations, monetary penalties, possible criminal prosecution and incarceration, and possible shut down of the facility's operations. The benefits of compliance and improved environmental performance would result in a healthier environment, good environmental stewardship, less pollution and waste, reduced costs, and would contribute to the facility's goal of environmental excellence.

Subject: ASBESTOS AWARENESS & SITE POLICY

To: All Employees and Contract Personnel

From: HS&E Department
Shaw Industries Group, Inc.
Plant 8S, Columbia, SC

The OSHA Asbestos Standard requires that all employees who work where asbestos containing material (ACM) is present must be given awareness information by the building owner. The following information satisfies this requirement:

When the Shaw Columbia Site was constructed in the 1960's, ACM products were installed on the facility's piping and process equipment, on HVAC and other utility systems, and in roofing materials and vinyl floor tiles. These ACMs are located plantwide and may be found in both production and non-production areas including overhead piping in hallways and warehouses, and above drop ceilings in administrative offices and laboratories.

The mere presence of asbestos does not equate to a health hazard. Since asbestos is an inhalation concern, it does not pose a hazard when its fibers are contained and are not released into the air. Asbestos insulation products used in our plant are wrapped with canvas, metal jacketing, or sealed with other types of encapsulants and enclosures which protect the material and prevent the release of fibers. Asbestos fiber in floor tile, roofing materials and similar products are bonded into the vinyl or asphalt of these products and are not released into the air. Asbestos air monitoring has been conducted throughout the plant, and the results found in the air within the plant is the same as the naturally occurring background levels recognized by OSHA and EPA as being safe.

Our Site Policy regarding the recognition of asbestos insulation and other ACM products is that unless the material is labeled or is positively recognized as being a non-asbestos product, it is *presumed* to contain asbestos until laboratory analysis proves otherwise. No one is allowed to handle, remove, or otherwise disturb these materials except a Licensed Contractor. We have contracted Delatron Corporation and HEPACO to address all of our Plant's asbestos removal and repair needs. These contractors' workers are specially trained and licensed by the SC DHEC to perform this work in accordance with all regulatory requirements. They are on-call 24 hours a day should an emergency arise. The emergency call is initiated by Site Services. No Shaw employee is allowed to handle or disturb these materials. The only exceptions would be the removal of insulation required to extinguish a fire which takes precedent over the Site's normal asbestos handling restrictions.

Should you have any questions or concerns regarding ACM and the Shaw Columbia Plant's Asbestos Policy, please call the HS&E Department at extension 517.

Section 4

Product Safety Review Process

Chemical Product SH&E Review

1. PURPOSE:

This form requests information required to screen and approve all new or replacement chemicals, raw materials, or trial products before these materials are purchased and/or allowed on the Plant 8S site. This procedure allows for the Health, Safety and Environmental review and approval of these products prior to their use at the facility and for the acquisition of product safety information mandated by EPA, OSHA and Corporate requirements.

2. SCOPE:

This procedure is applicable to the following:

1. For *any* amount of a new, replacement or trial chemical product desired for regular use, trial testing, or for any other purposes.
2. Prior to expanding the use of a previously approved product, such as the expansion of small trials to larger trials or when converting a trial material into regular use.
3. Prior to expanding the use of a previously approved chemical material or product from its initial use area or process to another use area or process.
4. When replacing one supplier of a previously approved product with another supplier of the same or similar product.

The person requesting the chemical product or having interest in expanding the use of a previously approved product should follow this procedure and submit the completed Form along with the product's MSDS to the HS&E Department. A HS&E representative will then notify the person of the outcome of the review.

3. FORM CONTENT:

1. Cover Sheet Information and HS&E Approvals
2. Product's chemical composition information
3. Biocide identification
4. Product or components listed with EPA
5. Health and physical hazards identification
6. Physical state of product
7. Shipping and storage container type and size
8. Amounts ordered and use rate
9. Container locations and pounds stored
10. Storage conditions of temperature and pressure
11. Solvents used with product
12. Identification of areas using the material
13. Waste disposal plans
14. Spill prevention and containment plans
15. New process or procedure identification
16. Other chemicals mixed with product
17. Impact on washwater or wastewater
18. Number of people potentially exposed

CHEMICAL PRODUCT HS&E REVIEW

HS&E DEPARTMENT USE ONLY
Chemical Inventory Number:_____

1. **COVER SHEET (Please complete)**

REQUESTED FOR: TRIAL REGULAR USE

PRODUCT NAME: _____

SUPPLIER: _____

NEW MATERIAL / PRODUCT: REPLACES:_____

PURPOSE: _____

REQUESTED BY: _____ PHONE:_____

DEPARTMENT: _____ DATE:_____

VENDOR'S MATERIAL SAFETY DATA SHEET (MSDS) FOR THIS PRODUCT MUST BE ATTACHED OR SENT TO THE SITE HS&E DEPARTMENT BEFORE PRODUCT CAN BE APPROVED FOR USE.

APPROVAL: (Reserved For HS&E Personnel)

HS&E Approval: _____ DATE:_____

PRODUCT NAME: _____

2. GIVE THE CHEMICAL COMPOSITION OF THE MATERIAL, THE CHEMICAL ABSTRACT NUMBERS (CAS#), AND PERCENT CONCENTRATION OF COMPONENTS. (See MSDS)

			HS&E USE ONLY	
SPECIFIC CHEMICAL NAME	CAS #	%	ACFSR	ECRT

3. IS THIS MATERIAL TO BE USED AS A BIOCIDE? YES _____ NO _____

IF THIS IS A BIOCIDE, ENTER THE EPA REGISTRATION NO._____
(Obtain from MSDS or ask manufacturer)

4. HAS THE MANUFACTURER / IMPORTER LISTED THIS PRODUCT OR EACH COMPONENT WITH THE EPA AS REQUIRED BY THE TOXIC SUBSTANCE CONTROL ACT? (Obtain from MSDS or ask manufacturer)

YES _____ NO

IF THE PRODUCT OR A COMPONENT IS NOT LISTED WITH THE EPA, PROVIDE AN EXPLANATION: _____

_____

_____

PRODUCT NAME: _____

5. HEALTH AND PHYSICAL HAZARDS (See MSDS - check all that apply)

ACUTE OR IMMEDIATE HEALTH HAZARDS

1. HIGHLY TOXIC ($LD_{50} \leq 50$ mg/kg for rats)
2. CORROSIVE (Causes visible destruction of the skin)
3. TOXIC (50 mg/kg $\leq LD_{50} \leq$ 500 mg/kg for rats)
4. IRRITANT (Eyes, Skin or Respiratory Tract)
5. SENSITIZER (Skin or systemic)
6. IMMEDIATE ADVERSE EFFECT ON BLOOD, KIDNEYS, LIVER, LUNGS, NERVOUS SYSTEM, REPRODUCTIVE SYSTEM, DERMAL LAYER OF SKIN, OR CAUSES CORNEAL DAMAGE TO EYES.

CHRONIC OR DELAYED HEALTH HAZARDS

1. CARCINOGEN (Causes cancer)
2. ADVERSE EFFECT ON TARGET ORGANS AFTER LONG EXPOSURE.

FIRE HAZARD

1. FLAMMABLE (Flash point < 100°F)
2. PYROPHORIC (Spontaneous ignition in air at < 130°F)
3. COMBUSTIBLE (Flash point $\geq$ 100°F and $\leq$ 200°F)
4. OXIDIZER (Initiates or supports combustion)

SUDDEN RELEASE OF PRESSURE

1. EXPLOSIVE (per Department of Transportation definition)
2. COMPRESSED GAS

REACTIVE

1. UNSTABLE / REACTIVE (Shock, pressure, or temperature)
2. ORGANIC PEROXIDE (Contains R-O-O-R' molecular structure)
3. REACTS VIOLENTLY WITH WATER

NON-HAZARDOUS

MANUFACTURER DETERMINED PRODUCT TO BE NON-HAZARDOUS

PRODUCT NAME: _____

6. WHAT PHYSICAL STATE IS THE MATERIAL RECEIVED, STORED, USED?

LIQUID SOLID GAS

LIQUID OR SOLID PROPELLED BY A GAS OR LIQUIFIED GAS

7. SHIPPING AND STORAGE CONTAINER (Check all that apply)

a. ABOVE GROUND TANK OUTSIDE BUILDING, SIZE:

b. BELOW GROUND TANK OUTSIDE/INSIDE BLDG, SIZE:

c. TANK INSIDE BUILDING SIZE:

d. METAL DRUM, SIZE:

e. PLASTIC DRUM, SIZE:

f. CAN, SIZE:

g. CARBOY, SIZE:

h. SILO, SIZE:

i. FIBER DRUM, SIZE:

j. BAG, SIZE:

k. BOX, SIZE:

l. CYLINDER SIZE:

m. GLASS BOTTLES OR JUGS, SIZE:

n. PLASTIC BOTTLES OR JUGS, SIZE:

o. TOTE BIN, SIZE:

p. TANK TRUCK, SIZE:

q. RAILCAR, SIZE:

r. OTHER, SIZE:

PRODUCT NAME: _____

8. HOW MUCH WILL BE ORDERED AT ONE TIME?_____
WHAT IS THE USE RATE? _____

9. EXACT LOCATIONS OF CONTAINER STORAGE:

BUILDING NUMBER	LOCATION IN BUILDING	TANK NUMBER	MAXIMUM POUNDS	AVERAGE POUNDS

10. STORAGE CONDITIONS (Check all that apply for each location):

		LOCATIONS
1.	AMBIENT PRESSURE	_____
2.	GREATER THAN AMBIENT PRESSURE	_____
3.	LESS THAN AMBIENT PRESSURE	_____
4.	AMBIENT TEMPERATURE	_____
5.	GREATER THAN AMBIENT TEMPERATURE	_____
6.	LESS THAN AMBIENT TEMPERATURE	_____
7.	CRYOGENIC CONDITIONS	_____

11. LIST ANY SOLVENTS TO BE USED FOR THIS MATERIAL:

_____

_____

PRODUCT NAME: _____

12. CHECK ALL AREAS WHERE THE MATERIAL WILL BE USED.

__Polymerization (Trains)
__ChipOut
__ZIP Processing (Extrusion)
__BCF Extrusion / SDT
__Twisting
__HeatSet
__Upstairs QE Lab
__Downstairs QE Lab
__Fiber Application Lab
__BCF Lab
__Polymer Maint Shop
__ZIP Maint. Shop
__CF Fork Truck Shop
__BCF Fork Truck Shop
__Machine Shop
__Instrument Shop
__Electrical Shop
__Reliability Shop
__Valve Shop
__BCF Maint. Shop
__Twisting Maint. Shop
__Heatset Maint. Shop
__Utilities (Plant Energy)
__Waste Water Treatment Plant
__Utilities Maint. Shop
__MSI/Receiving
__Shipping / Receiving (Warehouses)
__Site Engineering
__Janitorial
__Other (specify) _____

PRODUCT NAME:_____

13. WHAT ARE THE DISPOSAL PLANS FOR EMPTY CONTAINERS AND WASTES?

_____

_____

14. WHAT ARE SPILL PREVENTION AND CONTAINMENT PLANS?

_____

_____

15. IS A NEW PROCESS OR PROCEDURE INVOLVED WITH THIS MATERIAL?

_____

_____

16. WILL OTHER CHEMICALS BE ADDED OR MIXED WITH THIS MATERIAL?

_____

_____

17. WILL THIS PRODUCT ENTER THE WASHWATER OR WASTEWATER SYSTEMS? IF YES, PLEASE EXPLAIN._____

_____

_____

_____

18. ESTIMATE THE NUMBER PEOPLE POTENTIALLY EXPOSED TO MATERIAL.

_____

_____

Section 5

Chemical Hazard Information

SHAW INDUSTRIES, COLUMBIA PLANT 8S
CONTRACTOR CHEMICAL HAZARD INFORMATION

Contractor employees who enter any of the following plant areas should be advised of the information on the attached sheets for those chemicals listed for the particular area(s).

(NOTE: The attached chemical information sheets are in alphabetical order by product name)

POLYMERIZATION: (TRAINS / CHIPOUT)	ACETIC ACID CAPROLACTAM CYCLOHEXYLAMINE DOWTHERM F-140 SOLVENT HYDROGEN PEROXIDE, 25% HYPOPHOSPHOROUS ACID AQUATROL WATER TREATMENT PRODUCTS
ZIP EXTRUSION:	CAPROLACTAM DOWTHERM FINISH OIL PURPLE POWER SPINNERETTE MOLD RELEASE CHEMTREAT CL-2112 or CL-2212 (BIOCIDE) COVERAGE PLUS
BCF EXTRUSION	CAPROLACTAM DOWTHERM FINISH OIL SPINNERETTE MOLD RELEASE CHEMTREAT CL-2212 (BIOCIDE)

UTILITIES:

A. MAIN CONTROL:	AQUATROL WATER TREATMENT PRODUCTS GENETRON
B. TANK PARKS:	DOWTHERM CAPROLACTAM FUEL OIL NITROGEN GAS PROPANE
C. WASTE WATER TREATMENT PLANT	SODIUM HYPOCHLORITE (LIQUID BLEACH) AQUAMAG

MAINTENANCE SHOPS:	ACETYLENE ADHESIVES / SEALANTS F-140 SOLVENT LUBRICANTS PAINTS / COATINGS / THINNERS WELDING FUMES, GASES
Q.E. LAB:	ACETIC ACID ACETONE BENZYL ALCOHOL CYCLOHEXYLAMINE FORMIC ACID PHENOL / METHANOL SOLUTION
WAREHOUSE:	PRODUCT 7111

ELECTRICAL EQUIPMENT:

PCB'S (POLYCHLORINATED BIPHENYLS) located in:

A. TRANSFORMERS at substations, switch yards, and switch gear locations

B. FLUORESCENT LIGHT BALLASTS AND CAPACITORS

PLANTWIDE: ASBESTOS INSULATION PRODUCTS

Revised: Nov. 2015
HS&E Dept

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Acetic Acid

OTHER NAMES:

HAC, Glacial Acetic Acid, Vinegar Acid, Ethanoic Acid

MANUFACTURER(S):

Ashland Chemical Co.
Union Carbidge

Description:

Clear, colorless liquid with pungent vinegar-like odor.

HAZARDS:

Combustible. Corrosive. Causes severe burns to eyes and skin. Can cause blindness. Inhalation of vapors is irritating to the respiratory system causing coughing, pain, and breathing difficulty. Vapors are irritating to the eyes. Vapors are heavier than air and can be flammable.

PROTECTIVE MEASURES:

Wear protective equipment to prevent contact with skin and eyes. Provide adequate ventilation. Avoid sources of ignition.

FIRST AID:

Eyes – Immediately flush with water for 15 – 30 minutes.
Skin – Immediately flush with large quantities of water (15-30 minutes). Remove contaminated clothing.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Acetone

OTHER NAMES:

Dimethy ketone; 2-Propanone; Ketone Propane; Pyroacetic Ether

MANUFACURER(S):

Fisher Scientific
Ashland Chemical

DESCRIPTION:

Clear, colorless liquid with fragrant mint-like odor. Highly volatile.

HAZARDS:

Extremely flammable. Irritant to skin and eyes. Prolonged skin contact causes defatting and dermatitis. Excessive vapor inhalation can cause respiratory irritation, dizziness, headache, weakness, possible unconsciousness. Vapors can travel along ground to ignition sources.

PROTECTIVE MEASURES:

Wear protective equipment and clothing and prevent skin and eye contact. Avoid breathing vapors. Ensure adequate ventilation. Avoid ignition sources.

FIRST AID:

Eyes – Flush with water for 15 to 30 minutes.
Skin – Flush with water, remove contaminated clothing and wash off with soap and water.
Inhalation – Move person to fresh air, provide artificial respiration if necessary, and seek medical attention if required.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY

Acetylene

OTHER NAMES

Ethine, Ethyne

MANUFACTURER(S)

Burdett Oxygen Co.

DESCRIPTION

Colorless gas with garlic-like odor.

HAZARDS

Highly ignitable and explosive. Non-toxic but can displace normal air acting as an asphyxiant leading to dizziness, unconsciousness, even death. Forms explosive compounds with copper, mercury and silver compounds.

PROTECTIVE MEASURES

Adequate ventilation. Keep away from sparks, heat, sources of ignition.

FIRST AID

Remove to fresh air. Give artificial respiration and oxygen if necessary.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Adhesives and Sealants

OTHER NAMES:

Various: Loctite, Tuff Bond, Devcon, etc.

MANUFACTURER(S);

Various

DESCRIPTION:

Construction adhesives, epoxy patch kits, PVC cement, Tuff Bond, Loctite adhesives, etc. Most are liquids or paste products containing solvents similar to paint and thinners.

HAZARDS:

Most all are skin, eye and respiratory irritants. Some may be corrosive and cause blindness or tissue damage. Others may cause skin dermatitis or allergic type sensitization skin reactions. Some products are flammable. Inhalation of vapors from most of these products will cause headache, dizziness, light headedness and possible nausea.

PROTECTIVE MEASURES:

Wear protective equipment to avoid skin and eye contact. Use with adequate ventilation. Avoid sources of ignition. (Read labels on containers.)

FIRST AID:

Eyes – Flush immediately with water for 15-30 minutes
Skin – Flush thoroughly with water and wash off skin with soap and water.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Aquamag

OTHER NAMES:

Magnesium Hydroxide

MANUFACTORER(S):

Premier Chemicals

DESCRIPTION:

A thick, tan to off-white aqueous slurry. Odorless.

HAZARDS:

May be slightly irritating to eyes upon contact. Considered nonhazardous.

PROTECTIVE MEASURES:

Wear personal protective equipment to prevent skin and eye contact.

FIRST AID:

Eyes: Flush eyes with large amounts of water for 15 minutes.
Skin: Wash affected areas with soap and water.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Aquatrol water treatment products

OTHER NAMES:

MANUFACTORER(S):

AquaTrol

DESCRIPTION:

Various liquids and powders

HAZARDS:

Irritants and Corrosives.
Most will burn or irritate eyes and skin. Inhalation of vapors/dust/mists may irritate or damage the respiratory tract. A few products may cause allergic type sensitization reactions in susceptible individuals. A few products may be flammable.

PROTECTIVE MEASURES:

Wear personal protective equipment to prevent skin and eye contact. Avoid inhalation of vapors. Provide adequate ventilation.

FIRST AID:

Eyes: Immediately flush with water for 15 – 30 minutes and seek medical attention.
Skin: Immediately wash off skin with soap and water for through removal. If corrosive, rinse for 15 – 30 minutes.
Inhalation: Remove to fresh air and seek medical attention.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Asbestos: Insulation, floor tiles, transite piping, gasketing.

OTHER NAMES:

Blue mud, Brown mud, A cloth, ACM.

MANUFACTURER(S):

John Mansville, Owens Corning, et.al.

DESCRIPTION:

See attached sheet

HAZARDS:

Lung disease and disorders, lung cancer and mesothelioma (cancer of the lining of the chest or abdomen). Result from prolonged, repeated exposures to inhaling asbestos dust.

PROTECTIVE MEASURES:

Follow Plant Policy. Do Not disturb or handle any of the various asbestos containing products on this site.

FIRST AID:

The hazards associated with asbestos are chronic in nature and first aid procedures do not apply.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Benzyl Alcohol

OTHER NAMES:

Hydroxytoluene; Phenyl Carbinol; Phenyl Methanol

MANUFACTORER(S):

Reagents, Inc.

DESCRIPTION:

Water – white liquid with a faint aromatic odor.

HAZARDS:

Irritant to eyes, skin and upper respiratory tract. Excessive inhalation of vapors may cause headache, nausea, vomiting, dizziness, and diarrhea.

PROTECTIVE MEASURES:

Adequate ventilation. Protective equipment for eyes and skin.

FIRST AID:

Eyes – flush with water for 15-30 minutes.
Skin – flush with water through removal.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Caprolactam

OTHER NAMES:

Lactam, Monomer, E-Caprolactam, 2-Oxohexamethylenimine

MANUFACTORER(S):

Honeywell, BASF Corporation, DSM Chemicals

DESCRIPTION:

White, crystalline solid at ambient temperatures. Typically handled as clear, colorless molten liquid in tanks, rail cars, and piping. Has a characteristic odor.

HAZARDS:

Dust and vapors are mildly irritating to the eyes, skin and upper respiratory tract. Prolonged skin contact can cause dermatitis in some workers. Exposure to hot molten caprolactam can cause thermal burns.

PROTECTIVE MEASURES:

Provide adequate ventilation. Wear protective equipment to prevent skin and eye contact and to protect from thermal burns.

FIRST AID:

Eyes - Immediately flush with water for 15-30 minutes.
Skin – wash off thoroughly with water.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Caprolactam and Water Solutions

OTHER NAMES:

Washwater, Bottoms, Leachate

MANUFACTORER(S):

From On-Site Processes

DESCRIPTION:

Clear, colorless to dark brown liquid. Caprolactam content will vary with solution.

HAZARDS:

Prolonged skin contact may cause dermatitis in some workers. Irritant to eyes. Vapors are mildly irritating to eyes, skin, and mucous membranes.

PROTECTIVE MEASURES:

Adequate ventilation. Good personal hygiene. Protective equipment to prevent skin and eye contact.

FIRST AID:

Eyes – Flush with water 15-30 minutes.
Skin - Flush with water and thoroughly remove with soap and water.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Coverage Plus

OTHER NAMES:

MANUFACTORER(S):

Calgon, Vestal Laboratories, Inc.

DESCRIPTION:

Green liquid with mint scent

HAZARDS:

Corrosive to eyes and skin upon direct or prolonged contact. Vapors may be irritating to the upper respiratory tract.

PROTECTIVE MEASURES:

Wear appropriate protective equipment to prevent skin and eye contact. Provide adequate ventilation.

FIRST AID:

Eyes – Flush immediately with water for 15-30 minutes.
Skin – Wash affected areas immediately with water to remove product. Remove contaminated clothing.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Chem Treat CL-2112 or CL-2212

OTHER NAMES:

Gluteraldehyde Biocide

MANUFACTORER(S):

Chem Treat, Inc.

DESCRIPTION:

Clear liquid with sharp irritating odor. Soluble in water.

HAZARDS:

Corrosive liquid causing burns to eyes and skin. Inhalation of vapors are irritating to the respiratory tract.

PROTECTIVE MEASURES:

Wear personal protective equipment to prevent skin and eye contact.

FIRST AID:

Eyes: Immediately flush with water for 15-30 minutes and seek medical attention.
Skin: Wash off skin with soap and water for thorough removal. Rinse for 15-30 minutes.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Dowtherm

OTHER NAMES:

Dowtherm A; Dowtherm G

MANUFACTORER(S):

Dow Chemical
Monsanto

DESCRIPTION:

Straw colored liquid with aromatic disagreeable odor.

HAZARDS:

Irritating to the eyes. Prolonged or repeated skin contact can cause irritation. Excessive inhalation can irritate the upper respiratory tract and lungs. Repeated excessive exposures to vapor may cause liver and kidney effects and nervous system disorders. Extremely hot liquid temperatures can cause severe thermal burns**.**

PROTECTIVE MEASURES:

Wear protective clothing and equipment to prevent contact with skin and eyes, and to prevent thermal burns from hot liquid. Provide adequate ventilation.

FIRST AID:

Eyes - Immediately flush with water for 15-30 minutes.
Skin – Wash off with soap and water.
Inhalation **–** Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Finish Oils

OTHER NAMES:

Lurol, Fiberlube, COL-, Stantex, NF-

MANUFACTORER(S):

Goulson Technologies; Ethox Chemicals; Cognis Corp; Fibro Chem, Inc.

DESCRIPTION:

Opaque, white liquid with characteristic odor. Transparent light amber liquid with mild odor. Yellow liquid with mild perfume odor, or brown fluid with slight perfume odor.

HAZARDS:

May cause slight irritation of skin upon contact. Irritates eyes upon contact. No known harmful affects from inhalation.

PROTECTIVE MEASURES:

Minimize skin and eye contact. Adequate ventilation. Avoid contact with clothing.

FIRST AID:

Eyes – Flush with water for 15 to 30 minutes.
Skin – Rinse affected area with water. Wash with soap and water for thorough removal.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Formic Acid

OTHER NAMES:

Methanoic Acid

MANUFACTORER(S):

Suffolk Chemical

DESCRIPTION:

Colorless, fuming, volatile liquid having a severe pungent penetrating odor.

HAZARDS:

Corrosive. Strong irritant to tissue. Severe damage to eyes and skin. Contact with eyes may cause permanent blindness. Contact with skin can cause ulceration and blistering. Inhalation of vapor causes respiratory irritation. Repeated inhalation may cause chronic inflammation of upper respiratory tract and chronic bronchitis. Combustible.

PROTECTIVE MEASURES:

Adequate ventilation. Protective equipment to prevent skin and eye contact. Avoid breathing vapors.

FIRST AID:

Eyes – Immediately flush with plenty of water 15-30 minutes.
Skin – Immediately flush with large amounts of water for 15-30 minutes.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Fuel Oil

OTHER NAMES:

Heating Oil

MANUFACTORER(S):

Exxon Company

DESCRIPTION:

Clear, yellow colored liquid with faint petroleum hydrocarbon odor.

HAZARDS:
Flammable. Will irritate eyes upon contact. Prolonged or repeated skin contact will cause irritation and possible dermatitis. High vapor concentrations are irritating to respiratory tract and may cause headache, dizziness, and other central nervous system effects if inhaled.

PROTECTIVE MEASURES:

Protective equipment to avoid skin and eye contact. Avoid inhalation.

FIRST AID:

Eyes - Flush with plenty of water for 15-30 minutes.
Skin – Remove from skin with waterless hand cleaner followed by soap and water.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

F-140 SOLVENT

OTHER NAMES:

Crystal Clean Solvent

MANUFACTORER(S):

Superior Solvents and Chemicals, supplied by Crystal Clean services

DESCRIPTION:

White water liquid with kerosene or "varsol" type odor.

HAZARDS:

Can irritate skin and eyes. Can cause defatting of the skin and repeated contact may cause dermatitis. Excessive inhalation of vapors can cause headache, dizziness, and nausea. Flash point is 142 F.

PROTECTIVE MEASURES:

Wear protective equipment to prevent skin and eye contact. Provide adequate ventilation. Avoid sources of ignition.

FIRST AID:

Eyes – Immediately flush with water for 15 – 30 minutes.
Skin – Wash off skin with soap and water.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Genetron

OTHER NAMES:

Genetron 11, 12, 22, or 500

MANUFACTORER(S):

Allied Corp.; AlliedSignal Corp.

DESCRIPTION:

Colorless gas with faint ether-like odor. Vapors heavier than air.

HAZARDS:

Inhalation may cause mild irritation to upper respiratory tract. Primary hazard is from simple asphyxia. Dermatitis occurs rarely. General low order of toxicity. Can cause frost bite. Mild central nervous system depression may occur from inhalation of high concentration.

PROTECTIVE MEASURES:

General ventilation usually adequate. Protective equipment to avoid skin and eye contact.

FIRST AID:

Eyes and skin – Flush with water.
Inhalation – Remove to fresh air and give artificial respiration if necessary.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Hypophosporous Acid 50%

OTHER NAMES:

Perlic, Phosphinic Acid

MANUFACTORER(S):

Rhodia Inc.

DESCRIPTION:

Clear, colorless, oily liquid, odorless

HAZARDS:

Corrosive to skin and eyes. Irritating to upper respiratory tract.

PROTECTIVE MEASURES:

Wear protective equipment and clothing and prevent skin and eye contact. Avoid breathing vapors. Ensure adequate ventilation.

FIRST AID:

Eyes – Immediately flush with water and continue for 15 to 30 minutes. Seek medical attention.
Skin – Immediately flush skin, remove contaminated clothing and wash off with soap and water.
Inhalation – Move person to fresh air. Seek medical attention if required.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Hydrogen Peroxide, 25%

OTHER NAMES:

Peroxide

MANUFACTURER(S):

Univar USA, Inc.

DESCRIPTION:

Water white liquid with slightly sharp odor

HAZARDS:

Corrosive to eyes and skin. Irritating to the upper respiratory system if mists of this product are inhaled. A strong oxidizer…will promote fire.

PROTECTIVE MEASURES:

Wear protective equipment to prevent skin and eye contact.

FIRST AID:

Eyes - Immediately irrigate with water for at least 20 minutes. Seek medical attention.
Skin - Immediately wash off skin with plenty of water.
Inhalation - Remove to fresh air.

LUBRICANTS

DESCRIPTION

Lubricants are petroleum based substances used to reduce friction, heat and wear between solid surfaces.

Lubricants vary from thin oils (mineral, vegetable or animal) to thicker synthetic oils (glycols and silicones) to solids (graphite and talc) to greases (petroleum jelly and bearing grease). Many lubricants contain additives to improve efficiency and self/use life. They can be amber, transparent, milky or of another color, but are distinguished by their slippery properties.

HAZARDS

Inhalation of oil mists may cause lung irritation. Repeated and prolonged contact of oils and greases on bare skin may cause irritation and inflammation, known as dermatitis. As the oils that protect the skin are dissolved by the lubricating materials, the skin becomes dried out and loses moisture. Rashes and cracking of the skin could develop and, if not treated, could lead to infection. Remember, only consistent and repeated contact on unprotected skin over an extended period of time will produce these symptoms. Infrequent or accidental contact of the skin with oils and greases is not dangerous, and will not cause dermatitis.

The heavier types of oils and greases will not burn at normal temperatures but if they are heated, vapors are evolved; ignition becomes progressively easier and lubricants will ignite easily and burn fiercely. Heavy oils can be made to burn with a wick, and oily rags or clothes often act as such. The burning of an oil or grease could also generate toxic fumes (eg. carbon monoxide).

PROTECTIVE MEASURES

Personal hygiene is the most important factor in preventing problems. Avoid prolonged or repeated skin contact. The use of impervious gloves when working with lubricants will provide the best protection. Where skin contact has occurred, wash with soap and water or a waterless skin cleanser, Do not use solvent or thinners to remove grease as they are very harsh on your skin. Do not burn or weld on oil or grease storage containers. Use proper ventilation and respiratory protection when burning or welding on greasy equipment.

FIRST AID

The health hazards associated with lubricants are chronic in nature and as such, exceptional first aid procedures do not apply. Oil or grease fires should be extinguished with a dry powder or a light water spray fog.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Nitrogen gas

OTHER NAMES:

MANUFACTORER(S):

PraxAir, Inc.

DESCRIPTION:

Colorless, odorless gas

HAZARDS:

Simple asphyxiant which can reduce available oxygen for breathing in enclosed or low lying locations.

PROTECTIVE MEASURES:

Provide adequate ventilation.

FIRST AID:

Inhalation: Remove to fresh air. Give artificial respiration if not breathing. Get Medical attention.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

PCBs (Polychlorinated Biphenyls)

OTHER NAMES:

Pyranol; Askarel; Arochor; Inerteen; Chlorodiphenyls; Chorinated bipenyls

MANUFACTORER(S):

No longer manufactured. Formerly produced by the Monsanto Company and General Electric Company.

HAZARDS:

Eye and skin irritant. Prolonged skin contact may cause chloracne of skin. Vapors of the hot fluid may cause respiratory irritation if inhaled. Hot PCBs may cause thermal skin burns. Numerous studies of humans indicate no causal relationship between PCB exposure and cancer or any other chronic human illness. PCBs do not readily degrade in the environment and strongly bond to the soil and sediments.

PROTECTIVE MEASURES:

Wear appropriate chemical resistant protective equipment to prevent skin and eye contact. Avoid breathing vapor or mist if generated. Provide ventilation to control exposures or wear approved respiratory protection if airborne limits are exceeded. Prevent entry of PCBs into the environment. All wastes and residues containing PCBs must be collected and placed in proper containers for disposal. Individuals must comply with formal decontamination procedures if their clothing, body, tools, or equipment become contaminated. All contaminated wash water must also be contained.

FIRST AID:

Eyes – Flush with water.
Skin – wash immediately with soap and water.
Inhalation – remove to fresh air. Following decontamination, seek medical attention.

PAINTS AND COATINGS

DESCRIPTION

Thousands of different chemicals are used in paints and coatings. The mixture that makes up any coating includes a resin, a pigment and a solvent. In addition to these basic components, there may be fillers or extenders, driers and other additives. Examples of the chemicals are:

RESINS:	epoxy, polyurethane, acrylic, formaldehyde, gum
PIGMENTS:	lead, antimony, cobalt and cadmium compounds.
SOLVENTS:	mineral spirits, methylene chloride, toluene, xylene, methylethyl ketone (MEK).
FILLERS:	asbestos, silica, mica, clay, gypsum, talc.
DRIERS:	tung oil, coconut oil, linseed oil, cobalt and zinc compounds.
ADDITIVES:	corrosion inhibitors, anti-fouling agents, plasticizers.

Paints are supplied premixed or in their components for the user to mix. Paint may be solvent based or water based, but all paint fumes are heavier than air.

HAZARDS

Most paints and coatings are hazardous to some degree. The principal routes of entry are by inhalation and by skin contact. Excessive vapor inhalation may cause respiratory irritation, lack of coordination, headache, drowsiness and possible serious damage to the blood, lungs, liver and kidneys. Skin contact may cause skin irritation by removing natural oils and leaving the skin dry, or actual skin damage such as blisters and infection. Of particular concern are coatings made with polyurethane resins. These contain isocyanates (MDI and TDI) which can cause a sensitization reaction producing asthma-like symptoms at very low levels.

Solvent based paints and coatings may be flammable.

PROTECTIVE MEASURES

Good personal hygiene is essential. The skin should always be protected. In addition to gloves and other protective clothing, barrier creams may offer some degree of protection. Where possible, ventilation of the work area should be provided to protect against inhalation exposure. Where ventilation is not possible, respirators should be used. Acceptable respiratory protection for paint mists must include organic vapor capacity; a filter mask alone will result in evolution of solvent vapor from droplets collected on the mask directly in the breathing zone.

When working with flammable coatings, do not smoke or use equipment which could provide an ignition source. Keep fire-fighting equipment readily available. Dispose of waste promptly and safely. Good housekeeping is important.

Although some paints are less toxic than others, good safety practices dictate that care be exercised in the use of any paint.

FIRST AID

For inhalation, remove patient to fresh air. A single exposure event will rarely cause a skin problem, but see a physician if dermatitis becomes evident . Water or a dry powder extinguisher may be used to put out fires.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Phenol/Methanol

OTHER NAMES:

MANUFACTORER(S):

AquaAir Corporation

DESCRIPTION:

Water white liquid, with sweet, tarry odor.
68% Phenol / 32% Methanol
Vapors are heavier than air

HAZARDS:

Corrosive to skin, mucous membranes, and eyes causing chemical burns on contact. Toxic. Inhalation of vapors damaging to respiratory system and internal organs. Absorbed through the skin. Flammable.

PROTECTIVE MEASURES:

Adequate ventilation. Protective equipment to prevent skin and eye contact. Avoid breathing vapor. Eliminate ignition sources.

FIRST AID:

Eyes – Flush with plenty of water 15-30 minutes.
Skin – Immediately wash with copious quantities of water 5-15 minutes. Wash with soap and water for thorough removal.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Product 7111

OTHER NAMES:

7111, (Floor cleaner)

MANUFACTORER(S):

ChemStation of South Carolina

DESCRIPTION:

Thin watery liquid with citrus odor

HAZARDS:

Corrosive liquid. Will burn skin and eyes. Can cause permanent damage to skin and eyes with possible blindness.

PROTECTIVE MEASURES:

Wear protective equipment to prevent skin and eye contact. Use with adequate ventilation.

FIRST AID:

Eyes – Immediately flush with water for 30 minutes. Seek medical attention.
Skin – Immediately wash off skin with soap and water.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Propane

OTHER NAMES:

LP Gas: LPG, Liquefied Petroleum Gas

MANUFACTORER(S):

Suburban Propane

DESCRIPTION:

Colorless gas. An odorant has been added to provide a strong unpleasant odor.

HAZARDS:

Simple asphyxiate which reduces available oxygen for breathing in enclosed or low lying locations. Flammable gas. Liquid can cause frostbite upon contact with skin.

PROTECTIVE MEASURES:

Wear personal protective equipment to prevent skin and eye contact with liquid. Avoid inhalation of gas. Provide adequate ventilation. Eliminate ignition sources.

FIRST AID:

Skin and Eyes: If contact with liquid, flush gently with lukewarm water and seek medical attention.

Inhalation: Remove to fresh air. Provide artificial respiration and seek medical attention.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Purple Power

OTHER NAMES:

MANUFACTORER(S):

Luther Chemical Company, Inc.

DESCRIPTION:

Clean smelling clear liquid; purple in color.

HAZARDS:

This is an industrial cleaner and degreaser which contains sodium hydroxide. It is corrosive and can damage the tissues of the eyes and burn the skin.

PROTECTIVE MEASURES:

Wear protective equipment and prevent skin and eye contact.

FIRST AID:

Eyes – Flush immediately with water for 15 – 30 minutes.
Skin – Flush with water and wash off the skin. Remove contaminated clothing.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Sodium Hypochlorite

OTHER NAMES:

Liquid Bleach

MANUFACTORER(S):

Van Waters and Rogers, Inc.; BetzDearborn

DESCRIPTION:

Light yellow to green liquid

HAZARDS:

Corrosive liquid. Will cause chemical burns to skin and eyes. Vapors are highly irritating to the upper respiratory tract and may damage lung tissue**.**

PROTECTIVE MEASURES:

Provide adequate ventilation. Wear protective equipment to prevent skin and eye contact.

FIRST AID:

Eyes – Irrigate with water for at least 15 minutes. Seek medical attention.
Skin – Wash off skin with soap and water for 15 minutes.
Inhalation – Remove to fresh air.

CHEMICAL HAZARD INFORMATION SHEET

PLANT CHEMICAL IDENTITY:

Spinnerette Mold Release

OTHER NAMES:

Spinnerette Spray Lube

MANUFACTORER(S):

Spray on Products, Stoner, Keystone Lubricants, Elf Lubricants

DESCRIPTION:

Spray cans with propellant and silicon oil used in Extusion areas. Contains no CFC's.

HAZARDS:

Excessive inhalation can cause light-headedness, headache, drowsiness, giddiness, shortness of breath and possible nausea. May irritate eyes upon contact. May irritate skin with repeated, prolonged contact. Vapors are heavier than air.

PROTECTIVE MEASURES:

Avoid breathing vapor / mist. Adequate ventilation. Prevent eye and skin contact.

FIRST AID:

Eyes – Immediately flush with water for 15 – 30 minutes.
Skin – Wash with soap and water.
Inhalation – Remove to fresh air.

CHEMICAL IDENTITY

Welding Fumes, Vapors, Gases

DESCRIPTION

There are two main types of welding – oxy-acetylene (gas) and electric arc (low hydrogen, manual inert gas (MIG), gas tungsten, inert gas tungsten, submerged arc and plasma arc).

The characteristics specific to various types of welding are defined by the composition of the metal being welded, its surface coatings, the welding rod, its flux or coating and the type of gas employed.

HAZARDS

Welding generates non-ionizing energy which is harmful to the eyes and skin. Eye exposure to ultraviolet radiation from a welding arc could result in eye irritation known as "welder's flash". Skin irritation (similar to sunburn) may result from overexposure. Toxic fumes and vapors may be generated during welding. The type of toxins and the potential health effects depend on the same factors mentioned above. Workers are especially likely to be exposed to toxic metals when welding, cutting or brazing. Molten metals send up fumes that are easily inhaled by the welder; if he is welding or cutting metals that contain lead, mercury, beryllium, manganese, etc., fumes from these toxic metals can be inhaled, enter the lungs, and cause acute or chronic poisoning. These metals, however, are only a few of the respiratory hazards that welders encounter. Many of the fluxes and filler metals used in welding are also poisonous. Some types of welding generate potential carcinogens.

Another hazard presents itself whenever welding or brazing is performed on or with metals containing zinc or copper. These metals are not extremely poisonous, but inhaling their fumes can cause a condition known as metal fume fever. The effects of metal fume fever are intense chills, followed by a high fever that lasts about a day. Victims usually recover fully after that time, but the experience is very uncomfortable and may have harmful, long-term effects if body temperature remains at a high level for an extended period of time. To determine the particular hazards for your work, consult specific Material Data Safety Sheets and Welding Hazard index.

Safety concerns for welding include the proper use of compressed gas cylinders, welding on containers or inside vessels, the possibility of torch backfire and the potential for electric shock.

PROTECTIVE MEASURES

Protection against welding fumes can be achieved with local exhaust ventilation at the source of work. Welders should wear flame retardant gloves, jackets and other clothing as needed to protect against radiant heat and sparks. Ear protection should be worn during high noise welding activities (eg. chipping). Welders' helmets and goggles with the proper filtering lenses are essential for eye protection. Welding operations should be kept isolated from other industrial operations, especially degreasing tanks. Phosgene is produced when vapors or metals have been cleaned with chlorinated hydrocarbons are heated to temperatures used in welding.

FIRST AID

First aid treatment for ultraviolet burns of the eyes should include cold compresses on the eyes and examination by a physician. Workers affected by airborne contaminants should be removed from the area. Burns from molten metal should be treated as for any thermal burn. In all cases, see a physician.