



# Safety Manual

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- Loctite Power Grab All Purpose
- MASTERWELD 440 also SONNEBORN 400 ADH
- Metal Fasteners Tapcon
- Metal Fasteners Red Head and Masonry Drill Bits
- Silicon Dioxide, Amorphous
- Spitfire SC Power Cleaner
- Windex Original Glass Cleaner
- Windex Powerized Glass Cleaner (RTU)

The Merchco Safety Manual contains the following information:  
Right Back Pocket

- Work Comp Policy & Procedures
- First Report of Injury or Illness (2)
- Employee Safety Suggestion
- Safety Violation Notice

Merchco has a ZERO tolerance for not having the Safety Manual with you in your tool box at **all times at every Project**. Should OSHA ask if the information within this manual has been supplied to you and with you at every project, and you can't procedure the manual to an OSHA Rep. upon inspection, Merchco will be subjected to a fine or Merchco Management upon inspection will receive a written warning.

Foremost, Merchco is concerned about Employee Safety and are not only supplying each employee with the necessary information to be safe on each and every project, with Company's expectation for compliance, Management is also providing ample warning that if upon an inspection, the manual is not in your toolbox at the project, that reprimand will include no more than 3 written warnings then termination will occur.

## Section 1: Company Standards

### A. Company Policy

Merchco Services Inc. is dedicated to providing a safe and healthy work environment for all of our associates, sub-contractors, and customers. The company shall follow operating practices that will safeguard employees, the public and company operations. **We believe all accidents are preventable.** Therefore, we will make every effort to prevent accidents and comply with all established safety and health laws and regulations.

**The safety manual and all the forms associated with it must be in the employees tool box at all times. Inspections will be made and no more than 3 written warning will be given before employee is terminated.**

### B. Management Commitment to Safety

Management is concerned about employee safety. Accidents, unsafe working conditions, and unsafe acts jeopardize both employees and Company resources. Injuries and illnesses result in discomfort, inconvenience and possibly reduced income for the employee. Costs to the Company include direct expenses (medical, workers comp. premiums) and indirect expenses (loss of production, reduced efficiency etc.). These indirect costs are reported to cost 4-10 times more than the insured costs of an accident. Accordingly, Management will provide sufficient staffing, funds, time, and equipment so that employees can work safely and efficiently.

### C. Assignment of Responsibilities

Safety is everyone's responsibility. Everyone should have a safe attitude and practice safe behavior at all times.

#### 1) Management will:

- Provide sufficient staffing, funds, time, and equipment so that employees can work safely and efficiently.
- Demand safe performance from each associate and express this demand periodically and whenever the opportunity presents itself.
- Hold every associate accountable for safety and evaluate performance accordingly.
- Observe work activities to detect and correct unsafe actions to include written warning for employees within their responsibility
- Periodically review the Safety 1<sup>st</sup> Program effectiveness and results.
- Establish and maintain a safety education and training program
- Advise supervisors and associates on safety policies and procedures.
- Assure that all newly hired associates have been given a thorough orientation concerning the Company's safety program.
- Prepare and maintain safety records, analysis, evaluations, and reports to prove the Company's safety performance and comply with all agencies, insurance carriers and internal procedures.

## 2) Supervisors

Each employee who is in charge of a specific work area, supervises the work of others, or to who others or to whom an employee is assigned for a specific task or project is responsible and accountable for their safety. Supervisors will:

- Establish and maintain safe working conditions, practices, and processes through:
  - a. Pre-project planning
  - b. Job inspections
  - c. Safety meeting
- Observe work activities to detect and correct unsafe actions to include written warning for employees within their responsibility
- Ensure that all injuries are reported promptly and cared for properly. Make available first-aid treatment
- Investigate all accidents promptly, complete reports and provide them to the corporate office the same day of occurrence.
- Seek out alternative work so injured associates(s) can return to work at modified job functions
- Consistently enforce safety rules/regulations, programs and protective measures (i.e. use of personal protective equipment, machine guards, proper clothing, etc.)
- Brief the associates of any new hazards before they start work and discuss safety practices related to job hazards and general safe work behavior.

## 3) Associates

Each associate is responsible for his/her own safety. No task should be completed unless it can be completed safely. It is recommended that all employees have eye protection, gloves, and back brace for each project. Employees will:

- Comply with all company safety programs, rules, regulations, procedures, and instructions that are applicable to his/her own actions and conduct.
- Refrain from any unsafe act that might endanger him/her or fellow workers.
- Use all safety devices and personal protective equipment for his/her protection
- Report all hazards, incidents, and near-miss occurrences to their supervisor
- Promptly report all injuries and suspected work related illnesses to their supervisor
- Be a safe worker on and off the job. Help co-workers do their job safely. Come to work every day with a safe attitude.

## D. Accountability for Safety

Everyone is accountable for safety. Management will establish safety objectives and develop and direct accident prevention activities. All employees should strive to reach those objectives and will be evaluated accordingly.

## E. Associate Opinions

The Company requests ongoing comments and feedback from all associates. In addition, annually the company will request opinions/suggestions from all associates for input to influence ideas/changes to the safety programs, rules, procedures etc. You know your job better than anyone, and you can provide valuable input into performing your job safely.

## Section 2: Standards

### A. Emergencies

1) Emergency Procedures-Our goal is to provide prompt and immediate action in any emergency. In case of emergency, the associate nearest the stricken person should call 911 and direct a fellow associate to:

- Notify the nearest supervisor to come to the scene
- Simultaneously dispatch available employees to retrieve the first aid kit
- An individual trained in first-aid should apply emergency rescue procedures until medical assistance arrives
- After ambulance has been dispatched, all injuries should be reported to your supervisor

### B. Safe Operating Procedures

All associates are responsible for safety. The following applies to all associates:

#### 1) Rules

- Comply with all established safety rules, regulations, procedures, and instructions which are applicable to your own actions and conduct.
- Use of safety equipment & gear is required.
- Promptly report all accidents, hazards, incidents to your immediate supervisor regardless of whether or not injury or property damage was involved.
- Do not visit, talk to or distract another associate who is operating a machine or who is engaged in a work activity where the possibility of injury exists.
- Do Not participate in horseplay, scuffling, pushing, fighting, throwing things, or practical jokes
- Observe all no-smoking signs and regulations
- Use handrails on steps, elevated platforms, scaffolds, or other elevations
- Assist others and ask for assistance in lifting and carrying heavy or awkward objects
- Firearms, ammunition, and explosives are prohibited on the jobsite.
- Alcohol and drug use and possession on Company time is prohibited.

#### 2) Housekeeping

- Work areas, passageways and stairs, in and around buildings and structures must be kept clear of debris. Construction materials, fixtures, etc. should be stored in a orderly manner. Job site storage areas and walkways must be maintained free of dangerous obstructions and debris.
- The entire job site should be cleaned daily, floor swept and debris must be disposed of in dumpsters or off-site as directed.

#### 3) Material Handling & Back Safety

- Lift heavy object as instructed, with the leg muscles and not with the back.
- Call for assistance as needed for handling heavy or bulky objects or materials
- Use an proper approved lifting device (2-wheel carts, flat carts, pallet jacks, etc) for lifting very heavy, bulky, large or unyielding objects
- Wear safety gloves when handling dangerous materials (Batteries, chemicals, sharp objects, etc.)
- Avoid moving or lifting load by hand whenever possible



#### Tips for manual lifting:

- Get a good footing
- Place feet about shoulder width apart
- Bend at the knees to grasp the weight
- Keep back as straight as possible
- Get a firm hold
- Lift gradually by straightening the legs
- Don't twist your back to turn. Move your feet
- When the weight is too heavy or bulky for you to lift – **GET HELP!**
- When putting a load down, reverse the above steps

#### 4) Forklift & Heavy Equipment Safety

The following are the minimum safety practices for the operation of forklifts and heavy equipment.

- Only trained and certified operators are permitted to operate a forklift. All operators will be required to take an online and onsite training class, then evaluated by a company authorized trainer and must carry proper documentation.
- Prior to operating the forklift or equipment, the operator must test the brakes, steering, lights, horns, lifting levers, and any other devices for safe operation.
- Associates should operate the equipment with safe speed and within rated load limits. Drive to the right, do not exceed 10 miles per hour.
- Know the approximate weight of your load and make certain your equipment is rated to handle it. Never exceed the manufacturer's safe working load.
- Passengers are not permitted.
- Forklifts should never be left running unattended, forks should be lowered to the ground, do not park on an incline.
- Sound your horn when starting out, going around corners, to warn pedestrians.
- Always look in the direction you are traveling, look backwards when going backwards. Keep a clear view of the path. When forward vision is obstructed, drive in reverse.
- When traveling, with or without a load, keep forks or platform as low as possible.
- When descending, always use low gear or the slowest speed. Do not descend ramps with the load at the front of the forklift. Never ascend in reverse. When ascending, loaded forklifts should be driven with the load upgrade.
- Wear your seatbelt at all times. That is **not optional**.

#### 5) Ladders

- Use only a ladder that is appropriately weight rated.
- Ladders with broken or missing rungs and/or broken side rails should not be used.
- Ladders should be maintained free of lines, ropes, hoses, wires, oil, grease and debris.
- Never stand or sit on the top two steps of the ladder.
- Never climb or work from the back of the ladder.
- Never work with another person on the same ladder
- Never ascend or descend a ladder while carrying anything

#### 6) Electrical

- Only knowledgeable, certified electricians are to perform electrical work.
- Extension cords used with tools must be heavy duty. **Flat cords are not allowed.**
- Extension cords should be used as little as possible
- Working spaces, walkways, and similar locations must be kept clear of cords.
- Extension cords must be in like new condition, no taped extension cords may be used at any time.
- Extension cords must have third prong intact (ground).

#### 7) Hand Tools

- The greatest hazards posed by hand tools result from misuse and improper maintenance. (Don't use a chisel as a screwdriver. If a wooden handle on a hammer is loose or splintered, the head of the tool may fly off and strike the user or other employees.) Repair or replace any broken or defective tool.
- Employees are responsible for the safe condition of tools and equipment used, as they are your own tools.
- The Company does not permit the use of unsafe hand tools.
- All tools are to be kept in tool boxes when not in use and clear of work areas when in use so fellow employees may not trip & fall over tools left lying out.
- Knives & scissors must be sharp; dull tools can cause more hazards than sharp ones.
- Appropriate personal protective equipment such as safety goggles & gloves must be worn to protect against hazards.

#### 8) Power Tools

- The Company requires repair or replacement of any broken or defective power tool.
- Power tools should not be used if safety equipment has been removed or altered.
- Appropriate safety equipment should be implemented when using power tools. (glasses, gloves, etc.)
- Do not raise or lower a power tool by its electrical cord.
- Torque is the circular motion in tools such as drills, saws, etc. Be prepared in case of a tool jams or malfunctions. Always maintain a solid grip.
- Do not use a tool that you do not know how to operate
- Disconnect all power tools when not in use.
- Extension cords must be in good working condition. (Not taped or exposed wires)
- Always wear proper apparel for the task. Loose clothing, ties and/or jewelry can become caught in moving parts.

#### 9) Motor Vehicles and Equipment

- Only authorized, licensed drivers are permitted to operate vehicles or equipment. Accidents must be reported to the Company immediately.
- No person should attempt to get on or off moving vehicles or equipment.
- Associates are not permitted to ride with arms or legs outside the vehicle body.
- No heavy equipment is to be driven over 15 mph.
- Associates are required to obey all state & local laws, and Company rules and regulations while operating vehicles or equipment.
- Use of or possessing alcohol or drugs while operating a motor vehicle or piece of equipment or tool is prohibited.
- Any vehicles with materials that extend 4ft or more are required to have a red cloth or flag attached to the material.



## Section 3: Accident Management

### A. Accident Reporting

If you are injured on the job:

- Contact your supervisor, or nearest co-worker ( who should notify your supervisor) if you are unable to contact your supervisor due to the severity of your injury.
- If needed, the supervisor or his designee should transport the injured worker to receive proper medical attention.
- If rescue personnel are summoned delegate someone to escort the rescue team to the injured person.
- All witnesses to the accident should be available and cooperate in all accident investigations.
- Supervisors should notify the Company so proper claims are filed.
- Onsite supervisor should follow Injury report procedure as stated in the Employee Handbook.

Every accident should be reported immediately to the Human Resources Department (888-879-8813). If after hours please call (210-882-0226). Injured associates and witnesses to the accident will assist the supervisor in completing an accident investigation. Injured associates must comply with the medical treatment provided by the physician, cooperate with the insurance company, and abide by the company's return-to-work policy. Merchco reserves the right to test any employee injured on the job for drug and alcohol use.

## Section 4: Workers' Compensation

By law our company is required to obtain workers' compensation insurance. The company pays for this insurance. Our insurance premiums are not government funded in anyway. Because workers' comp. is a substantial cost of doing business, our goal is to prevent and manage accidents.

### A. What benefits are you entitled to?

When an associate is injured during the course of employment, workers' compensation insurance provides payment to the injured worker or the treating physician for medical treatment, disfigurement, death benefits, and indemnity payments. **The scope and amount of these payments are determined by state law.** Attorneys are not needed for you to get what you are entitled to. If you report injuries immediately to your supervisor and cooperate with your treating physician and the insurance company, the system will work with you to get healthy and back to work.

Medical treatment: Medical care, services, and supplies as necessary to cure or relieve the effects of an injury sustained on the job.

Disfigurement: Additional compensation is paid to an injured worker for permanent disfigurement from a work-related injury (i.e. scars, disfigurement, etc.)

Indemnity Payments: Wage replacement while recovering from a work- related injury.

Death Benefits: Weekly payments to the surviving spouse and dependent children of a worker whose work-related injury results in death. Burial and funeral expenses are also paid.

## B. Workers' Compensation Fraud

Filing false workers' compensation claims is punishable with a substantial fine and imprisonment. **Any associate who knows of a coworker who is abusing the workers' compensation system or has filed a false workers' compensation claim should call 1-800-810-6446.** You will not be asked to identify your name and the call is not recorded. This is an anonymous call to our insurance company.

The insurance company has many red flags to identify workers' compensation fraud and will investigate any accident they suspect may be fraudulent. They may deny or reduce benefits whenever a claim is found to be fraudulent or an associate is found to be abusing the workers' compensation system.

### The following is considered workers' compensation fraud or abuse:

- Faking an accident or injury.
- Exaggerating the seriousness of an accident or injury.
- Taking more time off than is really needed to recover.
- Attempting to collect benefits for an injury that is not job-related.
- Submitting false or exaggerated medical bills for payment.
- Working at another, equally demanding job while collecting benefits.
- Conspiring with, or being persuaded by, another person to do the above.

When people abuse workers' compensation benefits, we all pay. Your company is charged higher insurance premiums, which increases our expenses and lowers profitability. The best way to safeguard against fraud is to prevent accidents from happening. If you are aware of fraud, speak up by calling the Fraud Hotline.

## **Section 5: New Associate Safety**

The Company should provide safety training to all newly hired associates. Each new associate will be given a copy of the safety program.

General safety orientation containing information common to all associates should be reviewed, before beginning their regular job duties. Recommendations include (at a minimum):

- Review the Safety Manual, with emphasis on: Accident and hazard reporting, emergency procedures, first aid, protective equipment, etc.
- Encourage & motivate associate involvement in safety. Make each accountable for their safety and the safety of their coworkers.
- Review any known workplace hazards.
- Conduct training on any topics that are not scheduled to be addressed within a reasonable timeframe and are relevant to the associate's job.

Job-specific training provided before performing the task should include:

- Review completed Pre-Project Plans.
- Specific safety rules, procedures, hazards, to complete their job.
- Identify Employee and the Company responsibilities.

Continual training should be provided for all associates. Each new-hire should work with an experienced worker to act as a mentor and ensure that the associate is working safely and exhibits a positive safe attitude.

The trainer should complete the attached new associate safety checklist for each new associate during their safety training.

## Section 6: Safety Violation

During the course of the month members of management will be visiting various job sites conducting safety violation inspections. The intentions of these inspections are to bring safety awareness to all employees. Employees will be monitored while performing normal job duties and any unsafe practices will be brought to the attention of the employee and their immediate supervisor. Merchco reserves the right to use disciplinary action for any violation of safety rules within this manual. Merchco is not required to complete all the steps of the disciplinary procedure in every case. Discipline may begin at any step appropriate to the situation. Disciplinary steps include but are not limited to:

- Verbal Reprimand
- Written Reprimand
- Suspension
- Termination of Employment

The attached "Safety Violation Notice" should be completed for all written reprimands. A copy should be maintained in the associates personnel file and submitted to your Manager, if corrective action(s) is required. Any employee receiving 3 write ups for the same offense or 5 write ups total will be terminated.

Any act that is deemed unsafe but not listed in the book will be categorized as a "safety assurance." A safety assurance is just a warning that there is an alternative way of performing a task that may be safer for the employee.

## Section 7: Weekly Safety Meetings

Each week there will be a mandatory safety meeting held in all projects. These meetings are not optional and any employee participating in a project but misses the weekly safety meeting will be subject to corrective action up to and including termination. The topics of the safety meetings will be sent to all employees via email from Operations Management. The Project Leads will utilize the topics to conduct the safety meeting with all employees on the project. After each meeting, all employees will submit answers to safety questions sent via email back to Operations Management for confirmation and filing. The Account Mangers will verify that all employees scheduled for projects have participated in the weekly safety meeting.

## Section 8: Addendums

During routine inspections new concerns for safety may be witnessed. When such occurrences happen the item will be mentioned to the employee and then added to the safety manual in this section. A notice will be sent to all employees outlining the action and what should be done to correct it. You will be instructed to print the new addendums and keep them with your safety manual.

## **“Crystalline Silica Exposure” Health Hazard Information for Construction Employees**

### ***What is crystalline silica?***

Crystalline silica is a basic component of soil, sand, granite, and many other minerals. Quartz is the most common form of crystalline silica. Cristobalite and tridymite are two other forms of crystalline silica. All three forms may become respirable size particles when workers chip, cut, drill, or grind objects that contain crystalline silica.

### ***What are the hazards of crystalline silica?***

Silica exposure remains a serious threat to nearly 2 million U.S. workers, including more than 100,000 workers in high risk jobs such as abrasive blasting, foundry work, stonecutting, rock drilling, quarry work and tunneling. The seriousness of the health hazards associated with silica exposure is demonstrated by the fatalities and disabling illnesses that continue to occur in sandblasters and rock drillers. Crystalline silica has been classified as a human lung carcinogen. Additionally, breathing crystalline silica dust can cause **silicosis**, which in severe cases can be disabling, or even fatal. The respirable silica dust enters the lungs and causes the formation of scar tissues, thus reducing the lungs' ability to take in oxygen. There is no cure for silicosis. Since silicosis affects lung function, it makes one more susceptible to lung infections like **tuberculosis**. In addition, smoking causes lung damage and adds to the damage caused by breathing silica dust.

### **What are the symptoms of silicosis?**

Silicosis is classified into three types: chronic/classic, accelerated, and acute.

**Chronic/classic silicosis**, the most common, occurs after 15-20 years of moderate to low exposures to respirable crystalline silica. Symptoms associated with chronic silicosis may or may not be obvious: therefore, workers need to have a chest x-ray to determine if there is lung damage. As the disease progresses, the worker may experience shortness of breath upon exercising and have clinical signs of poor oxygen/carbon dioxide exchange. In the later stages, the worker may experience fatigue, extreme shortness of breath, chest pain, or respiratory failure.

**Accelerated silicosis** can occur after 5-10 years of high exposures to respirable crystalline silica. Symptoms include severe shortness of breath, weakness, and weight loss. The onset of symptoms takes longer than in acute silicosis.

**Acute silicosis** occurs after a few months or as long as two years following exposures to extremely high concentrations of respirable crystalline silica. Symptoms of acute silicosis include severe disabling shortness of breath, weakness, and weight loss, which often leads to death.

### ***Where is construction workers exposed to crystalline silica?***

Exposure occurs during many different construction activities. The most severe exposures have occurred during abrasive blasting with sand to remove paint and rust from bridges, tanks, concrete structures, and other surfaces. Other construction activities that may result in severe exposure include: jack hammering, rock/well drilling, concrete missing, concrete drilling, brick and concrete block cutting and sawing, tuck pointing, tunneling operations.

***How is OSHA addressing exposure to crystalline silica?***

OSHA has an established Permissible Exposure Limit, or PEL, which is the maximum amount of crystalline silica to which workers may be exposed during an 8-hour shift (29 CFR 1926.55, 1910.1000). OSHA also requires hazard communication training for workers exposed to crystalline silica, and requires a respirator program until engineering controls are implemented. Additionally, OSHA has a National Emphasis Program (NEP) for Crystalline Silica exposure to identify, reduce, and eliminate health hazards associated with occupational exposures.

***What can employers/employees do to protect against exposures to crystalline silica?***

- Replace crystalline silica materials with safer substitutes, whenever possible.
- Provide engineering or administrative controls, where feasible, such as local exhaust ventilation, and blasting cabinets. Where necessary to reduce exposures below the PEL, use protective equipment or other protective measures.
- Use all available work practices to control dust exposures, such as water sprays.
- Wear only a N95 NIOSH-certified respirator, if respirator protection is required. Do not alter the respirator. Do not wear a tight-fitting respirator with a beard or mustache that prevents a good seal between the respirator and the face.
- Wear only a Type CE abrasive-blast supplied-air respirator for abrasive blasting.
- Wear disposable or washable work clothes and shower if facilities are available. Vacuum the dust from your clothes and change into clean clothing before leaving the work site.
- Participate in training, exposure monitoring, and health screening and surveillance programs to monitor any adverse health effects caused by crystalline silica exposures.
- Be aware of the operations and the job tasks creating crystalline silica exposures in your workplace environment and know how to protect yourself.
- Be aware of the health hazards related to exposures to crystalline silica. Smoking adds to the lung damage caused by silica exposures.
- Do not eat, drink, smoke, or apply cosmetics in areas where crystalline silica dust is present. Wash your hands and face outside of dusty areas before performing any of these activities.
- Remember: If it's silica, it's not just dust.

For more information, contact your local OSHA office (listed in the telephone directory under United States Government – Department of Labor – Occupational Safety and Health Administration) or visit OSHA's website at <http://www.osha.gov>.



## “Ethylene Oxide”

### ETHYLENE OXIDE AWARENESS TRAINING

**Substance:** Ethylene Oxide

**CAS Registry Number:** 75-21-8

**Synonyms:** Dihydrooxirene, Dimethylene oxide, EO, ETO, 1, 2-Epoxyethane, Epoxyethane, Ethene oxide, Oxacyclopropane, Oxane, Oxidoethane, Oxirane

Ethylene oxide (EtO) is a flammable, colorless gas at temperatures above 51.3° F (10.7° C), which smells like ether at toxic levels. Ethylene oxide can decompose explosively and the liquid can accumulate static charge by splashing or agitation. The gas is slightly heavier than air and may spread long distances, closer to the bench top or floor. Distant ignition and flashback are possible. EtO is found in the production of solvents, antifreeze, textiles, detergents, adhesives, polyurethane foam, and pharmaceuticals. Smaller amounts are present in fumigants, sterilants for spices and cosmetics, as well as during hospital sterilization of surgical equipment. EtO is also used in medical research as a sterilant for equipment and animal cages. Ethylene oxide (EtO) is produced in large volumes and is primarily used as an intermediate in the production of several industrial chemicals, the most notable of which is ethylene glycol.

It is also used as a fumigant in certain agricultural products and as a sterilant for medical equipment and supplies. Unfortunately, EtO possesses several physical and health hazards that merit special attention.

**Health Effects:** EtO is both flammable and highly reactive. Acute exposures to EtO gas may result in respiratory irritation and lung injury, headache, nausea, vomiting, diarrhea, shortness of breath, and cyanosis. Chronic exposure has been associated with the occurrence of cancer, reproductive effects, mutagenic changes, neurotoxicity, and sensitization.

In addition to eye pain and sore throat, exposure to EtO can cause difficulty breathing and blurred vision. Exposure can also cause dizziness, nausea, headache, convulsions, and blisters and can result in vomiting and coughing. Both human and animal studies show that EtO is a carcinogen that may cause leukemia and other cancers. EtO is also linked to spontaneous abortion, genetic damage, nerve damage, peripheral paralysis, muscle weakness, as well as impaired thinking and memory. In liquid form, EtO can cause severe skin irritation upon prolonged or confined contact. Employee exposure is limited to one part EtO per million parts of air (1 ppm) measured as an 8-hour time-weighted average (TWA). Employee exposure may not exceed the short-term excursion limit of 5 ppm EtO averaged over any 15-minute sampling period.

These limits are called permissible exposure limits (PELs). Most occupational exposures to EtO are covered by OSHA's specific standard for EtO.

The standard does not apply, however, when employers can demonstrate that the processing, use, or handling of products containing EtO will not release airborne concentrations of EtO at or above the standard's action level of 0.5 ppm. The action level is calculated as an 8-hour TWA and is the threshold for increased compliance

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2. Activities (e.g., air monitoring, medical examinations, labeling, employee information, and training). However, awareness training is required for any use of EtO. For details of the requirements in OSHA's EtO standard for occupational exposures, see Title 29 of the Code of Federal Regulations (CFR) Part 1910.1047 or contact Environmental Health and Safety at X4150.

Note: Workplaces are exempt from this standard when objective data shows that the processing, use, or handling of products containing EtO cannot release airborne concentrations of EtO at or above the action level or in excess of the excursion limit during normal conditions. Awareness training is required for any use of EtO.

The key provisions of the EtO standard include:



- A limit on workplace exposure of one part EtO per million parts air (1 ppm) averaged over an eight-hour day
- An excursion limit, of five parts EtO per million parts of air (5 ppm) averaged over a sampling period of 15 minutes. Employee rotation is prohibited as a means of compliance with the excursion limit.
- Where the exposure limits are exceeded, employers must:
- Use engineering controls, such as a fume hood, and work practices, such as a closed filtered system, to reduce exposure. These controls and practices may be supplemented by the use of respirators where necessary.
- Establish and implement a written compliance program (SOP) to achieve the limits.
- Establish exposure monitoring and training programs for employees subjected to EtO exposure above the limits.
- Identify, as a regulated area, any location where airborne concentrations of EtO are expected to exceed the limits.
- Place warning labels on containers capable of releasing EtO to the extent that an employee's exposure would foreseeably exceed the action level or excursion limit.
- Dispose of EtO waste as hazardous waste.
- Do not have open flames or hot plates in the area where EtO is used.

**Respiratory protection:** Respirators shall be used to control exposure only in the following circumstances:

- While feasible engineering and work practice controls are being installed
- During maintenance, repair and other operations for which engineering controls are not feasible
- In work situations where feasible engineering and work practice controls do not reduce exposures below the permissible exposure limit (PEL) in emergencies.

**Action level (0.5 ppm):** If the eight-hour time-weighted airborne concentration of EtO is at or exceeds the action level, employers must begin periodic exposure monitoring and medical surveillance.

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3. Employers who demonstrate that worker exposures are below the action level need not comply with most provisions of the standard.

**Exposure monitoring:** If an employer has not monitored worker exposures within the past year, he or she must do so for each job classification in a work area during each shift; representative sampling is permitted under certain circumstances. The frequency of subsequent monitoring depends on the results of the initial sampling. Affected employees or their designated representatives must be provided an opportunity to observe the exposure monitoring.

**Medical surveillance:** The standard requires a comprehensive medical surveillance program to be conducted by or under the supervision of a licensed physician. Workers must be granted a medical examination:

- Before assignment to an area and annually where exposure is at or above the action level.
- At or above action level for 30 days or more during the year.
- Upon request if a worker has developed symptoms suggesting overexposure or wants medical advice concerning the effects of EtO exposure on his or her ability to produce a healthy child.
- At the time a worker ends employment in an area of exposure.

**Regulated areas:** Employers must identify areas where occupational exposure exceeds the PEL or excursion limit. These areas must be clearly marked and only authorized persons allowed to enter.

**Communication of EtO hazards to employees:** Establish regulated areas where occupational exposure to EtO exceeds the 8-hr TWA or excursion limit, and clearly mark them to limit number of workers in the regulated area and to allow only authorized persons to enter. Provide the signs and labels specified by the standard clearly indicating EtO's carcinogenic and reproductive hazards in regulated areas. Train workers upon initial assignment and then annually if they are at risk of exposure at or above the action level or above the excursion limit. Maintain a material safety data sheet for EtO that conforms to the provisions of OSHA's hazard communication standard, 29 CFR 1910.1200(g).

**Record keeping:** Exposure records must be retained for 30 years, medical records must be kept for the worker's duration of employment plus 30 years. Workers, former employees, and their designated representatives may have access to records, upon request.

**Applicability:** The standard generally applies to all occupational exposures to EtO. However, workplaces in which the processing, use or handling of products containing EtO cannot result in airborne concentration at or above the action level are excluded.

An employer who claims exemption from the standard must keep records that document this determination.

To protect against EtO exposure, follow these safety precautions:

- Wear goggles and skin protection at all times in areas where there is a risk of splashes from liquid EtO.

**ALBERT EINSTEIN COLLEGE of MEDICINE of YESHIVA UNIVERSITY**  
**DEPARTMENT of ENVIRONMENTAL HEALTH and SAFETY**

4

- Wear proper protective clothing and other approved personal protective equipment when working with EtO.
- Discard clothing that has been degraded by EtO.
- See a doctor if you are exposed to EtO.
- Do not eat, drink, or smoke while working with EtO.

**Emergency Procedures:** In a medical emergency, call 911, then 4111.

**Inhalation:** Take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment, use the buddy system). Remove source of contamination or move victim to fresh air. Obtain medical attention immediately.

**Skin contact:** For ethylene oxide in GAS form: If irritation occurs, flush with lukewarm, gently flowing water for 15 minutes or until the chemical is removed. If irritation persists, obtain medical attention.

For ethylene oxide SOLUTIONS: Avoid direct contact. Wear chemical protective clothing, if necessary. As quickly as possible, flush with lukewarm, gently flowing water for at least 15 minutes or until the chemical is removed.

Under running water remove contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Obtain medical attention immediately. Completely decontaminate clothing, shoes and leather goods before re-use or discard.

Contact with eyes: Avoid direct contact. Wear chemical protective gloves, if necessary.

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the chemical is removed, while holding eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain attention immediately.

**Ingestion:** NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or is convulsing. DO NOT INDUCE VOMITING. Have victim drink a cup of water to dilute material in the stomach. Obtain medical attention immediately.

Before working with any chemical, review the Material Safety Data Sheet.

## “Hand and Power Tools”

### **What Is the Purpose of This Booklet?**

### **What Are the Hazards of Hand Tools?**

### **What Are the Dangers of Power Tools?**

- Guards
- Operating Controls and Switches
- Electric Tools
- Portable Abrasive Wheel Tools
- Pneumatic Tools
- Liquid Fuel Tools
- Powder-Actuated Tools
- Hydraulic Power Tools

### **What Help Can OSHA Provide?**

- Safety and Health Program Management Guidelines
- State Programs
- Consultation Services
- Voluntary Protection Programs
- Strategic Partnership Program
- Training and Education
- Electronic Information
- OSHA Publications
- Emergencies, Complaints, and Further Assistance

### **States and Territories with Approved Plans**

### **OSHA Consultation Project Directory**

### **OSHA Area Offices**

### **OSHA Regional Offices**

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### **What Is the Purpose of This Booklet?**

This booklet is designed to present to employees and employers a summary of the basic safety procedures and safeguards associated with hand and portable power tools.

Material in this booklet is based on the standards of the Occupational Safety and Health Administration; this booklet, however, should not be considered as a substitute for the full safety and health standards for general industry (published in Title 29 *Code of Federal Regulations* (CFR), Part 1910, Subpart P), or for the construction industry (published in 29 CFR Part 1926, Subpart I). These are also available on the World Wide Web at [www.osha.gov](http://www.osha.gov)

Employers and employees in the 26 states and territories with OSHA-approved state safety and health plans should check with their state agency. Their state may be enforcing standards and other procedures that, while "at least as

effective as" federal standards are not always identical to the federal requirements. (See page 13 for more information on state plans.)

Tools are such a common part of our lives that it is difficult to remember that they may pose hazards. Tragically, a serious incident can occur before steps are taken to identify and avoid or eliminate tool-related hazards.

Employees who use hand and power tools and are exposed to the hazards of falling, flying, abrasive, and splashing objects, or to harmful dusts, fumes, mists, vapors, or gases must be provided with the appropriate personal protective equipment. All electrical connections for these tools must be suitable for the type of tool and the working conditions (wet, dusty, flammable vapors). When a temporary power source is used for construction a ground-fault circuit interrupter should be used.

Employees should be trained in the proper use of all tools. Workers should be able to recognize the hazards associated with the different types of tools and the safety precautions necessary.

Five basic safety rules can help prevent hazards associated with the use of hand and power tools:

- Keep all tools in good condition with regular maintenance.
- Use the right tool for the job.
- Examine each tool for damage before use and do not use damaged tools.
- Operate tools according to the manufacturers' instructions.
- Provide and use properly the right personal protective equipment.

Employees and employers should work together to establish safe working procedures. If a hazardous situation is encountered, it should be brought immediately to the attention of the proper individual for hazard abatement.

The following sections identify various types of hand and power tools and their potential hazards. They also identify ways to prevent worker injury through proper use of the tools and through the use of appropriate personal protective equipment.

---

## **What Are the Hazards of Hand Tools?**

Hand tools are tools that are powered manually. Hand tools include anything from axes to wrenches. The greatest hazards posed by hand tools result from misuse and improper maintenance.

Some examples include the following:

- If a chisel is used as a screwdriver, the tip of the chisel may break and fly off, hitting the user or other employees.
- If a wooden handle on a tool, such as a hammer or an axe, is loose, splintered, or cracked, the head of the tool may fly off and strike the user or other employees.
- If the jaws of a wrench are sprung, the wrench might slip.
- If impact tools such as chisels, wedges, or drift pins have mushroomed heads, the heads might shatter on impact, sending sharp fragments flying toward the user or other employees.

The employer is responsible for the safe condition of tools and equipment used by employees. Employers shall not issue or permit the use of unsafe hand tools. Employees should be trained in the proper use and handling of tools and equipment.

Employees, when using saw blades, knives, or other tools, should direct the tools away from aisle areas and away from other employees working in close proximity. Knives and scissors must be sharp; dull tools can cause more hazards than sharp ones. Cracked saw blades must be removed from service.

Wrenches must not be used when jaws are sprung to the point that slippage occurs. Impact tools such as drift pins, wedges, and chisels must be kept free of mushroomed heads. The wooden handles of tools must not be splintered.

Iron or steel hand tools may produce sparks that can be an ignition source around flammable substances. Where this hazard exists, spark-resistant tools made of non-ferrous materials should be used where flammable gases, highly volatile liquids, and other explosive substances are stored or used.

---

### **What Are the Dangers of Power Tools?**

Appropriate personal protective equipment such as safety goggles and gloves must be worn to protect against hazards that may be encountered while using hand tools.

Workplace floors shall be kept as clean and dry as possible to prevent accidental slips with or around dangerous hand tools.

Power tools must be fitted with guards and safety switches; they are extremely hazardous when used improperly. The types of power tools are determined by their power source: electric, pneumatic, liquid fuel, hydraulic, and powder-actuated.

To prevent hazards associated with the use of power tools, workers should observe the following general precautions:

- Never carry a tool by the cord or hose.
- Never yank the cord or the hose to disconnect it from the receptacle.
- Keep cords and hoses away from heat, oil, and sharp edges.
- Disconnect tools when not using them, before servicing and cleaning them, and when changing accessories such as blades, bits, and cutters.
- Keep all people not involved with the work at a safe distance from the work area.
- Secure work with clamps or a vise, freeing both hands to operate the tool.
- Avoid accidental starting. Do not hold fingers on the switch button while carrying a plugged-in tool.
- Maintain tools with care; keep them sharp and clean for best performance.
- Follow instructions in the user's manual for lubricating and changing accessories.
- Be sure to keep good footing and maintain good balance when operating power tools.
- Wear proper apparel for the task. Loose clothing, ties, or jewelry can become caught in moving parts.
- Remove all damaged portable electric tools from use and tag them: "Do Not Use."

#### **Guards**

The exposed moving parts of power tools need to be safeguarded. Belts, gears, shafts, pulleys, sprockets, spindles, drums, flywheels, chains, or other reciprocating, rotating, or moving parts of equipment must be guarded.



Machine guards, as appropriate, must be provided to protect the operator and others from the following:

- Point of operation.
- In-running nip points.
- Rotating parts.
- Flying chips and sparks.

Safety guards must never be removed when a tool is being used. Portable circular saws having a blade greater than 2 inches (5.08 centimeters) in diameter must be equipped at all times with guards. An upper guard must cover the entire blade of the saw. A retractable lower guard must cover the teeth of the saw, except where it makes contact with the work material. The lower guard must automatically return to the covering position when the tool is withdrawn from the work material.

### **Operating Controls and Switches**

The following hand-held power tools must be equipped with a constant-pressure switch or control that shuts off the power when pressure is released: drills; tappers; fastener drivers; horizontal, vertical, and angle grinders with wheels more than 2 inches (5.08 centimeters) in diameter; disc sanders with discs greater than 2 inches (5.08 centimeters); belt sanders; reciprocating saws; saber saws, scroll saws, and jigsaws with blade shanks greater than 1/4-inch (0.63 centimeters) wide; and other similar tools. These tools also may be equipped with a "lock-on" control, if it allows the worker to also shut off the control in a single motion using the same finger or fingers. The following hand-held power tools must be equipped with either a positive "on-off" control switch, a constant pressure switch, or a "lock-on" control: disc sanders with discs 2 inches (5.08 centimeters) or less in diameter; grinders with wheels 2 inches (5.08 centimeters) or less in diameter; platen sanders, routers, planers, laminate trimmers, nibblers, shears, and scroll saws; and jigsaws, saber and scroll saws with blade shanks a nominal 1/4-inch (6.35 millimeters) or less in diameter. It is recommended that the constant-pressure control switch be regarded as the preferred device.

Other hand-held power tools such as circular saws having a blade diameter greater than 2 inches (5.08 centimeters), chain saws, and percussion tools with no means of holding accessories securely must be equipped with a constant-pressure switch.

### **Electric Tools**

Employees using electric tools must be aware of several dangers. Among the most serious hazards are electrical burns and shocks.

Electrical shocks, which can lead to injuries such as heart failure and burns, are among the major hazards associated with electric-powered tools. Under certain conditions, even a small amount of electric current can result in fibrillation of the heart and death. An electric shock also can cause the user to fall off a ladder or other elevated work surface and be injured due to the fall.

To protect the user from shock and burns, electric tools must have a three-wire cord with a ground and be plugged into a grounded receptacle, be double insulated, or be powered by a low-voltage isolation transformer. Three-wire cords contain two current-carrying conductors and a grounding conductor. Any time an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong must never be removed from the plug.

Double-insulated tools are available that provide protection against electrical shock without third-wire grounding. On double-insulated tools, an internal layer of protective insulation completely isolates the external housing of the tool.

The following general practices should be followed when using electric tools:



- Operate electric tools within their design limitations.
- Use gloves and appropriate safety footwear when using electric tools.
- Store electric tools in a dry place when not in use.
- Do not use electric tools in damp or wet locations unless they are approved for that purpose.
- Keep work areas well lighted when operating electric tools.
- Ensure that cords from electric tools do not present a tripping hazard.

In the construction industry, employees who use electric tools must be protected by ground-fault circuit interrupters or an assured equipment-grounding conductor program.

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### **Portable Abrasive Wheel Tools**

Portable abrasive grinding, cutting, polishing, and wire buffing wheels create special safety problems because they may throw off flying fragments. Abrasive wheel tools must be equipped with guards that: (1) cover the spindle end, nut, and flange projections; (2) maintain proper alignment with the wheel; and (3) do not exceed the strength of the fastenings.

Before an abrasive wheel is mounted, it must be inspected closely for damage and should be sound- or ring-tested to ensure that it is free from cracks or defects. To test, wheels should be tapped gently with a light, non-metallic instrument. If the wheels sound cracked or dead, they must not be used because they could fly apart in operation. A stable and undamaged wheel, when tapped, will give a clear metallic tone or "ring."

To prevent an abrasive wheel from cracking, it must fit freely on the spindle. The spindle nut must be tightened enough to hold the wheel in place without distorting the flange. Always follow the manufacturer's recommendations. Take care to ensure that the spindle speed of the machine will not exceed the maximum operating speed marked on the wheel.

An abrasive wheel may disintegrate or explode during start-up. Allow the tool to come up to operating speed prior to grinding or cutting. The employee should never stand in the plane of rotation of the wheel as it accelerates to full operating speed. Portable grinding tools need to be equipped with safety guards to protect workers not only from the moving wheel surface, but also from flying fragments in case of wheel breakage.

When using a powered grinder:

- Always use eye or face protection.
- Turn off the power when not in use.
- Never clamp a hand-held grinder in a vise.

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### **Pneumatic Tools**

Pneumatic tools are powered by compressed air and include chippers, drills, hammers, and sanders.

There are several dangers associated with the use of pneumatic tools. First and foremost is the danger of getting hit by one of the tool's attachments or by some kind of fastener the worker is using with the tool.

Pneumatic tools must be checked to see that the tools are fastened securely to the air hose to prevent them from

becoming disconnected. A short wire or positive locking device attaching the air hose to the tool must also be used and will serve as an added safeguard.

If an air hose is more than 1/2-inch (12.7 millimeters) in diameter, a safety excess flow valve must be installed at the

source of the air supply to reduce pressure in case of hose failure.

In general, the same precautions should be taken with an air hose that are recommended for electric cords, because the hose is subject to the same kind of damage or accidental striking, and because it also presents tripping hazards.

When using pneumatic tools, a safety clip or retainer must be installed to prevent attachments such as chisels on a chipping hammer from being ejected during tool operation.

Pneumatic tools that shoot nails, rivets, staples, or similar fasteners and operate at pressures more than 100 pounds per square inch (6,890 kPa), must be equipped with a special device to keep fasteners from being ejected, unless the muzzle is pressed against the work surface.

Airless spray guns that atomize paints and fluids at pressures of 1,000 pounds or more per square inch (6,890 kPa) must be equipped with automatic or visible manual safety devices that will prevent pulling the trigger until the safety device is manually released.

Eye protection is required, and head and face protection is recommended for employees working with pneumatic tools.

Screens must also be set up to protect nearby workers from being struck by flying fragments around chippers, riveting guns, staplers, or air drills.

Compressed air guns should never be pointed toward anyone. Workers should never "dead-end" them against themselves or anyone else. A chip guard must be used when compressed air is used for cleaning.

Use of heavy jackhammers can cause fatigue and strains. Heavy rubber grips reduce these effects by providing a secure handhold. Workers operating a jackhammer must wear safety glasses and safety shoes that protect them against injury if the jackhammer slips or falls. A face shield also should be used.

Noise is another hazard associated with pneumatic tools. Working with noisy tools such as jackhammers requires proper, effective use of appropriate hearing protection.

### **Liquid Fuel Tools**

Fuel-powered tools are usually operated with gasoline. The most serious hazard associated with the use of fuel-powered tools comes from fuel vapors that can burn or explode and also give off dangerous exhaust fumes. The worker must be careful to handle, transport, and store gas or fuel only in approved flammable liquid containers, according to proper procedures for flammable liquids.

Before refilling a fuel-powered tool tank, the user must shut down the engine and allow it to cool to prevent accidental ignition of hazardous vapors. When a fuel-powered tool is used inside a closed area, effective ventilation and/or proper respirators such as atmosphere-supplying respirators must be utilized to avoid breathing carbon monoxide. Fire extinguishers must also be available in the area.

### **Powder-Actuated Tools**

Powder-actuated tools operate like a loaded gun and must be treated with extreme caution. In fact, they are so dangerous that they must be operated only by specially trained employees.

When using powder-actuated tools, an employee must wear suitable ear, eye, and face protection. The user must select a powder level -- high or low velocity -- that is appropriate for the powder-actuated tool and necessary to do the work without excessive force.

The muzzle end of the tool must have a protective shield or guard centered perpendicular to and concentric with the barrel to confine any fragments or particles that are projected when the tool is fired. A tool containing a high-velocity load must be designed not to fire unless it has this kind of safety device.

To prevent the tool from firing accidentally, two separate motions are required for firing. The first motion is to bring the tool into the firing position, and the second motion is to pull the trigger. The tool must not be able to operate until it is pressed against the work surface with a force of at least 5 pounds (2.2 kg) greater than the total weight of the tool.

If a powder-actuated tool misfires, the user must hold the tool in the operating position for at least 30 seconds before trying to fire it again. If it still will not fire, the user must hold the tool in the operating position for another 30 seconds and then carefully remove the load in accordance with the manufacturer's instructions. This procedure will make the faulty cartridge less likely to explode. The bad cartridge should then be put in water immediately after removal. If the tool develops a defect during use, it should be *tagged* and must be *taken out of service immediately* until it is properly repaired.

Safety precautions that must be followed when using powder-actuated tools include the following:

- Do not use a tool in an explosive or flammable atmosphere.
- Inspect the tool before using it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstructions and has the proper shield, guard, and attachments recommended by the manufacturer.
- Do not load the tool unless it is to be used immediately.
- Do not leave a loaded tool unattended, especially where it would be available to unauthorized persons.
- Keep hands clear of the barrel end.
- Never point the tool at anyone.

When using powder-actuated tools to apply fasteners, several additional procedures must be followed:

- Do not fire fasteners into material that would allow the fasteners to pass through to the other side.
- Do not drive fasteners into very hard or brittle material that might chip or splatter or make the fasteners ricochet.
- Always use an alignment guide when shooting fasteners into existing holes.
- When using a high-velocity tool, do not drive fasteners more than 3 inches (7.62 centimeters) from an unsupported edge or corner of material such as brick or concrete.
- When using a high velocity tool, do not place fasteners in steel any closer than 1/2-inch (1.27 centimeters) from an unsupported corner edge unless a special guard, fixture, or jig is used.

### **Hydraulic Power Tools**

The fluid used in hydraulic power tools must be an approved fire-resistant fluid and must retain its operating characteristics at the most extreme temperatures to which it will be exposed. The exception to fire-resistant fluid

involves all hydraulic fluids used for the insulated sections of derrick trucks, aerial lifts, and hydraulic tools that are used on or around energized lines. This hydraulic fluid shall be of the insulating type.

The manufacturer's recommended safe operating pressure for hoses, valves, pipes, filters, and other fittings must not be exceeded.

All jacks -- including lever and ratchet jacks, screw jacks, and hydraulic jacks -- must have a stop indicator, and the stop limit must not be exceeded. Also, the manufacturer's load limit must be permanently marked in a prominent place on the jack, and the load limit must not be exceeded.

A jack should never be used to support a lifted load. Once the load has been lifted, it must immediately be blocked up. Put a block under the base of the jack when the foundation is not firm, and place a block between the jack cap and load if the cap might slip.

To set up a jack, make certain of the following:

- The base of the jack rests on a firm, level surface;
- The jack is correctly centered;
- The jack head bears against a level surface; and
- The lift force is applied evenly.

Proper maintenance of jacks is essential for safety. All jacks must be lubricated regularly. In addition, each jack must be inspected according to the following schedule: (1) for jacks used continuously or intermittently at one site -- inspected at least once every 6 months, (2) for jacks sent out of the shop for special work -- inspected when sent out and inspected when returned, and (3) for jacks subjected to abnormal loads or shock -- inspected before use and immediately thereafter.

## Hand & Power Tools

U.S. Department of Labor  
Elaine L. Chao, Secretary

Occupational Safety and Health Administration  
John L. Henshaw, Assistant Secretary

OSHA 3080  
2002 (Revised)

This informational booklet is intended to provide a generic, non-exhaustive overview of a particular standards-related topic. This publication does not itself alter or determine compliance responsibilities, which are set forth in OSHA standards themselves and the *Occupational Safety and Health Act*. Moreover, because interpretations and enforcement policy may change over time, for additional guidance on OSHA compliance requirements, the reader should consult current and administrative interpretations and decisions by the Occupational Safety and Health Review Commission and the courts.

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### What Help Can OSHA Provide?

OSHA can provide extensive help through a variety of programs, including assistance about safety and health programs, state plans, workplace consultations, voluntary protection programs, strategic partnerships, training and education, and more.

### **Safety and Health Program Management Guidelines**

Working in a safe and healthful environment can stimulate innovation and creativity and result in increased performance and higher productivity.

To assist employers and employees in developing effective safety and health management systems, OSHA published recommended *Safety and Health Program Management Guidelines* (*Federal Register* 54(16): 3904-3916, January 26, 1989). These voluntary guidelines can be applied to all places of employment covered by OSHA.

The guidelines identify four general elements that are critical to the development of a successful safety and health management system. These are the following:

Management leadership and employee involvement,  
Worksite analysis, Hazard prevention and control, and Safety and health training. The guidelines recommend specific actions, under each of these general elements, to achieve an effective safety and health management system. The *Federal Register* notice is available online at [www.osha.gov](http://www.osha.gov).





**MATERIAL**

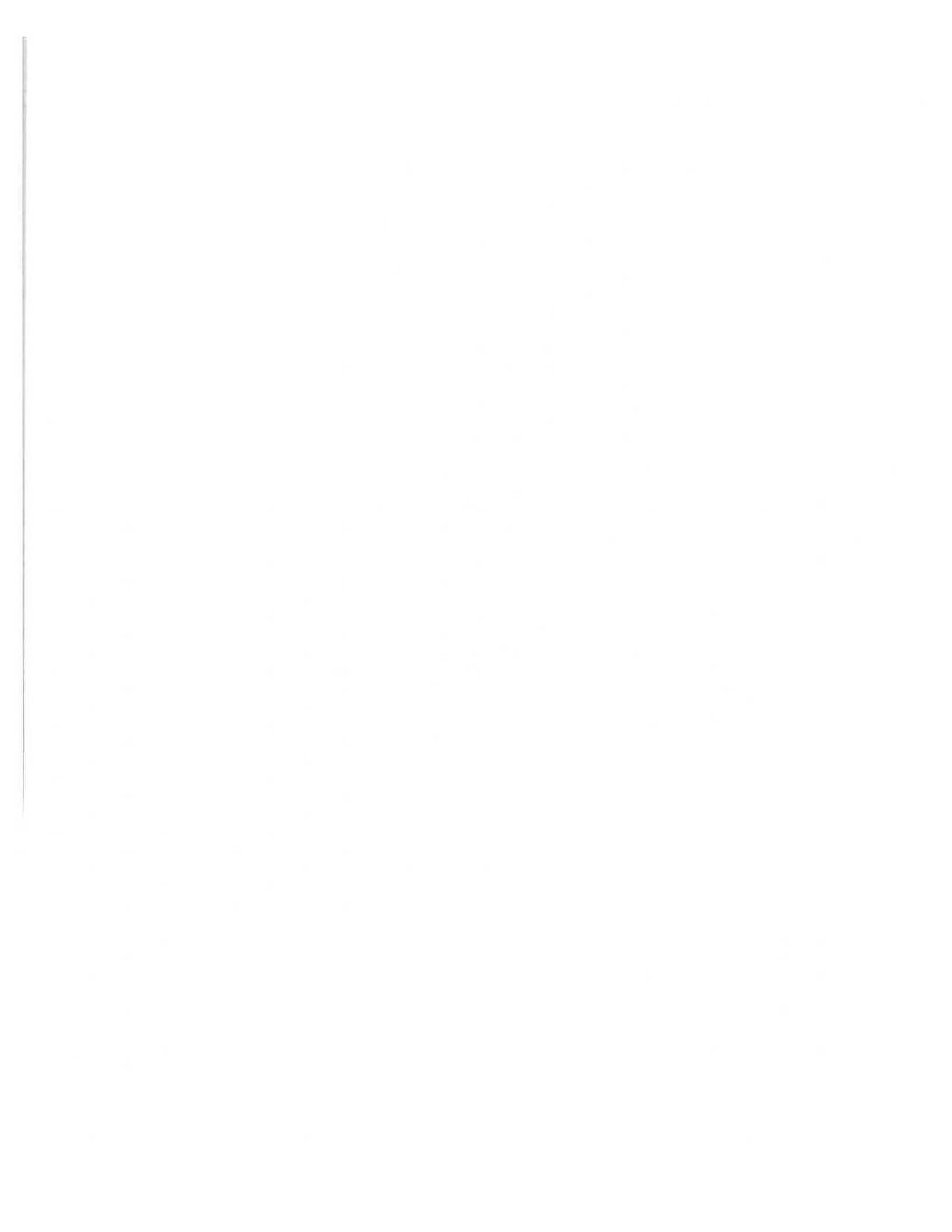
**SAFETY**

**DATA**

**SHEETS**

***BE SAFETY SMART***





CHEMICAL NAME: SILICA  
COMMON NAME: AMORPHOUS SILICA  
CAS NUMBER: 7631-86-9

5-10

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### SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE(S) OF EXPOSURE: INHALATION, SKIN CONTACT, EYE CONTACT, INGESTION

#### EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF RESPIRATORY TRACT. PROLONGED INHALATION MAY LEAD TO DIZZINESS AND/OR LIGHTEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, COUGHING, CHOKING, CENTRAL NERVOUS SYSTEM DEPRESSION, TIGHTNESS OF CHEST, DIFFICULTY OF BREATHING, ABNORMAL BLOOD PRESSURE, PNEUMONIA, PULMONARY EDEMA, CONVULSIONS, LOSS OF CONSCIOUSNESS, COMA, CYANOSIS.

SKIN CONTACT: IRRITATION OF SKIN. PROLONGED OR REPEATED CONTACT CAN CAUSE DEFATTING, SEVERE SKIN IRRITATION OR BURNS.

EYE CONTACT: IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE CONJUNCTIVITIS, TEARING OF EYES, REDNESS OF EYES, SEVERE EYE IRRITATION OR BURNS.

INGESTION: INGESTION MAY CAUSE LUNG INFLAMMATION AND DAMAGE DUE TO ASPIRATION OF MATERIAL INTO LUNGS, MOUTH AND THROAT IRRITATION, MUCOUS MEMBRANE IRRITATION, DIZZINESS AND/OR LIGHTEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, DIARRHEA, GASTRO-INTESTINAL DISTURBANCES, CENTRAL NERVOUS SYSTEM DEPRESSION, INTOXICATION, BURNS OF THE MOUTH, THROAT, STOMACH, PULMONARY EDEMA, CONVULSIONS, LOSS OF CONSCIOUSNESS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EYE, SKIN, RESPIRATORY DISORDERS

### SECTION 4: FIRST-AID MEASURES

INHALATION: REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. GET EMERGENCY MEDICAL ATTENTION. HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY.

SKIN CONTACT: WASH THOROUGHLY WITH SOAP AND WATER. IF ANY PRODUCT REMAINS, GENTLY RUB PETROLEUM JELLY, VEGETABLE OR MINERAL/BABY OIL ONTO SKIN. REPEATED APPLICATIONS MAY BE NEEDED. REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING BEFORE RE-USE.

EYE CONTACT: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. IF

IRRITATION OR OTHER EFFECTS PERSIST, OBTAIN MEDICAL TREATMENT,

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INGESTION: IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY

#### SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (SETA): ABOVE 200F/93C LOWER EXPLOSIVE LIMIT: NOT AVAILABLE  
UPPER EXPLOSIVE LIMIT: NOT AVAILABLE

FIRE EXTINGUISHING MEDIA: DRY CHEMICAL OR FOAM, WATER FOG, CARBON DIOXIDE

#### UNUSUAL FIRE AND EXPLOSION HAZARDS

VAPORS MAY IGNITE EXPLOSIVELY AT AMBIENT TEMPERATURES. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL LONG DISTANCES TO A SOURCE OF IGNITION AND FLASH BACK. VAPORS CAN FORM EXPLOSIVE MIXTURES IN AIR AT ELEVATED TEMPERATURES. CLOSED CONTAINERS MAY BURST IF EXPOSED TO EXTREME HEAT OR FIRE. MAY DECOMPOSE UNDER FIRE CONDITIONS EMITTING IRRITANT AND/OR TOXIC GASES.

#### FIRE FIGHTING PROCEDURES

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS. FIREFIGHTERS SHOULD USE FULL PROTECTIVE CLOTHING, EYE PROTECTION, AND SELF-CONTAINED BREATHING APPARATUS.

#### HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE, ACRID FUMES, FORMALDEHYDE, OXIDES OF SILICON, TOXIC GASES, SILICON COMPOUNDS

#### SECTION 6: ACCIDENTAL RELEASE MEASURES

##### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS. ELIMINATE ALL SOURCES OF IGNITION. VENTILATE AREA. SPILLS MAY BE COLLECTED WITH ABSORBENT MATERIALS. EVACUATE ALL UNNECESSARY PERSONNEL. PLACE COLLECTED MATERIAL IN PROPER CONTAINER. COMPLETE PERSONAL PROTECTIVE EQUIPMENT MUST BE USED DURING CLEANUP.

LARGE SPILLS. SHUT OFF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN SPILL. PUMP TO STORAGE OR SALVAGE VESSELS. USE ABSORBENT TO PICK UP EXCESS RESIDUE. KEEP SALVAGEABLE MATERIAL AND RINSE WATER OUT OF SEWERS AND WATER COURSES

SMALL SPILLS: USE ABSORBENT TO PICK UP RESIDUE AND DISPOSE OF PROPERLY.

#### SECTION 7: HANDLING AND STORAGE

STORE BELOW 100F (38C). KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME. KEEP CONTAINER TIGHTLY CLOSED IN A WELL-VENTILATED AREA

OTHER PRECAUTIONS

4

USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE. EMPTY CONTAINERS MAY CONTAIN HAZARDOUS RESIDUES. GROUND EQUIPMENT WHEN TRANSFERRING TO PREVENT ACCUMULATION OF STATIC CHARGE.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

COMMON NAME: HYDROTREATED MIDDLE PETROLEUM DISTILLATES  
CAS NUMBER: 64742-46-7  
ACGIH(TWA): 5 MG/M3 OSHA(TWA): 5 MG/M3  
ACGIH(STEL): 10 MG/M3

COMMON NAME: HYDROTREATED HEAVY NAPHTHA  
CAS NUMBER: 64742-48-9  
ACGIH(TWA): 300 PPM

COMMON NAME: AMORPHOUS SILICA  
CAS NUMBER: 7631-86-9  
ACGIH(TWA): 10 MG/M3 OSHA(TWA): 6 MG/M3

RESPIRATORY PROTECTION

WHERE RESPIRATORY PROTECTION IS REQUIRED, USE ONLY NIOSH/MSHA APPROVED RESPIRATORS IN ACCORDANCE WITH OSHA STANDARD 29 CFR 1910.134

VENTILATION

PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS. USE EXPLOSION-PROOF EQUIPMENT.

PERSONAL PROTECTIVE EQUIPMENT

EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES,  
IMPERVIOUS GLOVES, IMPERVIOUS CLOTHING, FACE SHIELD

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE:	NOT AVAILABLE	SPECIFIC GRAVITY:	0.960
BOILING RANGE (F/C):	NOT AVAILABLE	WEIGHT PER GALLON:	8.00 / 9.61 IMP
APPEARANCE:	CLEAR	%VOLATILE BY VOLUME:	NOT DETERMINED
PHYSICAL STATE:	PASTE	SOLUBLE IN WATER:	NO
PH:	N/A		

SECTION 10: STABILITY AND REACTIVITY

UNDER NORMAL CONDITIONS. STABLE (SEE SECTION 5 FIRE FIGHTING MEASURES)

MATERIALS TO AVOID: OXIDIZERS, ACIDS, BASES, ALKALIS, PEROXIDES,  
ALCOHOLS

CONDITIONS TO AVOID: ELEVATED TEMPERATURES, MOISTURE, CONTACT WITH OXIDIZING AGENT, SPARKS, OPEN FLAME, IGNITION SOURCES

5

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

#### SECTION 11: TOXICOLOGICAL INFORMATION

COMMON NAME: DIMETHYL SILOXANE, TRIMETHOXYSILOYL-TERMINATED  
CAS NUMBER: CONFIDENTIAL  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: ETHYLTRIACETOXYSILOXANE  
CAS NUMBER: 17689-77-9  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: METHYLTRIACETOXYSILOXANE  
CAS NUMBER: 4253-34-3  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
LD50: 2060.00 MG/KG ORL RAT

COMMON NAME: SILICONE FLUID  
CAS NUMBER: 63148-62-9  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
LD50: > 40.00 GM/KG ORL RAT  
LC50: > 535.00 PPM IHL RAT

COMMON NAME: HYDROTREATED MIDDLE PETROLEUM DISTILLATES  
CAS NUMBER: 64742-46-7  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: HYDROTREATED HEAVY NAPHTHA  
CAS NUMBER: 64742-48-9  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH YES A3  
LD50: > 5000.00 MG/KG ORL RAT  
LD50: > 2.00 GM/KG SKN RBT

COMMON NAME: DIMETHYL(POLYSILOXANE)  
CAS NUMBER: 70131-67-8  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
LD50: > 40.00 GM/KG ORL RAT  
LC50: > 535.00 MG/LIHL RAT

COMMON NAME: AMORPHOUS SILICA  
CAS NUMBER: 7631-86-9  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

#### SUPPLEMENTAL HEALTH INFORMATION

CONTAINS A CHEMICAL THAT IS MODERATELY TOXIC BY INGESTION.

NOTICE - REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING



6  
THE CONTENTS MAY BE HARMFUL OR FATAL. ACETIC ACID IS FORMED UPON CONTACT WITH WATER OR HUMID AIR. PROVIDE ADEQUATE VENTILATION TO CONTROL EXPOSURES WITHIN GUIDELINES OF OSHA PEL: 10 PPM AND ACGIH TLV: TWA 10 PPM, STEL 15 PPM. OTHER EFFECTS OF OVEREXPOSURE MAY INCLUDE TOXICITY TO CENTRAL NERVOUS SYSTEM.

CARCINOGENICITY: THIS PRODUCT CONTAINS METHYLPOLYSILOXANES WHICH CAN GENERATE FORMALDEHYDE AT APPROXIMATELY 300 DEGREES F (150C), AND ABOVE, IN THE PRESENCE OF OXYGEN. FORMALDEHYDE IS A SKIN AND RESPIRATORY SENSITIZER, EYE AND THROAT IRRITANT, ACUTE TOXICANT, AND POTENTIAL CANCER HAZARD.

REPRODUCTIVE EFFECTS: NO REPRODUCTIVE EFFECTS ARE ANTICIPATED

MUTAGENICITY: NO MUTAGENIC EFFECTS ARE ANTICIPATED

TERATOGENICITY: NO TERATOGENIC EFFECTS ARE ANTICIPATED

#### SECTION 12: ECOLOGICAL INFORMATION

NO ECOLOGICAL TESTING HAS BEEN DONE BY AKZO NOBEL ON THIS PRODUCT AS A WHOLE.

#### SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS

#### SECTION 14: TRANSPORT INFORMATION

DOT: CAULKING COMPOUND  
IMDG: NOT AVAILABLE  
IATA: NOT AVAILABLE  
TDG: NOT AVAILABLE

#### SECTION 15: REGULATORY INFORMATION

SARA 302	SARA 313	CERCLA 302.4	HAZ AIR POLLUTANT	MARINE POLYNT
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THIS PRODUCT CONTAINS NO SARA 302, CERCLA 302.4 OR HAZARDOUS AIR POLLUTANT CHEMICALS. IT ALSO CONTAINS NO CHEMICALS WHICH ARE SUBJECT TO THE REPORTING REQUIREMENTS UNDER SARA 313 AS OF THE DATE OF THIS MSDS, ALL OF THE COMPONENTS IN THIS PRODUCT ARE LISTED (OR ARE OTHERWISE EXEMPT FROM LISTING) ON THE TSCA INVENTORY. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR (CONTROLLED PRODUCTS REGULATIONS) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

**SECTION 16: OTHER INFORMATION**

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE AT THE TIME OF PREPARATION OF THIS DATA SHEET AND WHICH AKZO NOBEL BELIEVES TO BE RELIABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA. AKZO NOBEL SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS INFORMATION, OR OF ANY PRODUCT, METHOD OR APPARATUS MENTIONED AND YOU MUST MAKE YOUR OWN DETERMINATION OF ITS SUITABILITY AND COMPLETENESS FOR YOUR OWN USE, FOR THE PROTECTION OF THE ENVIRONMENT, AND THE HEALTH AND SAFETY OF YOUR EMPLOYEES AND USERS OF THIS MATERIAL. COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29CFR1910.1200.

MSDS for: AC-138

Revised: 9-Feb-2009 /

SECTION 1:

PRODUCT IDENTIFIER: AC-138 ADHESIVE CAULK  
DATE OF PREPARATION: DECEMBER 5, 2008  
PRODUCT USE: ADHESIVE/CAULK

MANUFACTURED BY: AKZO NOBEL  
15885 WEST SPRAGUE ROAD  
STRONGSVILLE, OHIO 44136, U.S.A.

AKZO NOBEL (CANADA)  
8200 KEELE STREET  
CONCORD, ONTARIO L4K 2A5, CANADA

EMERGENCY AND MSDS TELEPHONE NUMBER: 1-800-545-2643

MSDS PREPARED BY: PRODUCT SAFETY AND COMPLIANCE DEPARTMENT  
AKZO NOBEL NORTH AMERICA

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT		WT. %
CHEMICAL NAME: ACRYLIC RESIN COMMON NAME: ACRYLIC RESIN CAS NUMBER: CONFIDENTIAL		20-30
CHEMICAL NAME: 1,2-ETHANEDIOL COMMON NAME: ETHYLENE GLYCOL CAS NUMBER: 107-21-1		0.1-1.0
CHEMICAL NAME: ETHANOL, 2,2'-OXYBIS-, DIBENZOATE COMMON NAME: DIETHYLENE GLYCOL DIBENZOATE CAS NUMBER: 120-55-8		1-5
CHEMICAL NAME: LIMESTONE COMMON NAME: LIMESTONE CAS NUMBER: 1317-65-3		40-50
CHEMICAL NAME: TITANIUM OXIDE COMMON NAME: TITANIUM DIOXIDE CAS NUMBER: 13463-67-7		1-5
CHEMICAL NAME: QUARTZ COMMON NAME: QUARTZ CAS NUMBER: 14808-60-7		0.1-1.0
CHEMICAL NAME: WATER COMMON NAME: WATER CAS NUMBER: 7732-18-5		20-30

SECTION 3: HAZARDS IDENTIFICATION 2

PRIMARY ROUTE(S) OF EXPOSURE: INHALATION, SKIN CONTACT, EYE CONTACT, INGESTION

EFFECTS OF OVEREXPOSURE

INHALATION: IRRITATION OF RESPIRATORY TRACT. PROLONGED INHALATION MAY LEAD TO HEADACHE, NAUSEA, COUGHING.

SKIN CONTACT: IRRITATION OF SKIN.

EYE CONTACT: IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE TEARING OF EYES, REDNESS OF EYES.

INGESTION: INGESTION MAY CAUSE MOUTH AND THROAT IRRITATION, HEADACHE, NAUSEA, VOMITING, GASTRO-INTESTINAL DISTURBANCES, ABDOMINAL PAIN, INTOXICATION, DIFFICULTY OF BREATHING, CARDIAC ABNORMALITIES, BLOOD ABNORMALITIES, KIDNEY DAMAGE, CONVULSIONS, CYANOSIS, BRAIN DAMAGE, CHEST EFFECTS.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

EYE, SKIN, RESPIRATORY DISORDERS

SECTION 4: FIRST-AID MEASURES

INHALATION: REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. GET EMERGENCY MEDICAL ATTENTION. HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY. REMOVE TO FRESH AIR IF INHALATION CAUSES EYE WATERING, HEADACHES, DIZZINESS, OR OTHER DISCOMFORT.

SKIN CONTACT: WASH THOROUGHLY WITH SOAP AND WATER. IF ANY PRODUCT REMAINS, GENTLY RUB PETROLEUM JELLY, VEGETABLE OR MINERAL/BABY OIL ONTO SKIN. REPEATED APPLICATIONS MAY BE NEEDED. REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING BEFORE RE-USE.

EYE CONTACT: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. IF IRRITATION OR OTHER EFFECTS PERSIST, OBTAIN MEDICAL TREATMENT.

INGESTION: IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY.

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (SETA) ABOVE 200F/93C LOWER EXPLOSIVE LIMIT: NOT AVAILABLE  
UPPER EXPLOSIVE LIMIT: NOT AVAILABLE

FIRE EXTINGUISHING MEDIA DRY CHEMICAL OR FOAM, WATER FOG, CARBON DIOXIDE

UNUSUAL FIRE AND EXPLOSION HAZARDS 3

CLOSED CONTAINERS MAY BURST IF EXPOSED TO EXTREME HEAT OR FIRE.

FIRE FIGHTING PROCEDURES

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS. FIREFIGHTERS SHOULD USE FULL PROTECTIVE CLOTHING, EYE PROTECTION, AND SELF-CONTAINED BREATHING APPARATUS.

HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE, ACRYLIC MONOMERS,  
OXIDES OF CALCIUM

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS  
VENTILATE AREA. PLACE COLLECTED MATERIAL IN PROPER CONTAINER. SPILLED  
MATERIAL IS EXTREMELY SLIPPERY.

SECTION 7: HANDLING AND STORAGE

STORE BELOW 100F (38C). KEEP FROM FREEZING.

OTHER PRECAUTIONS

USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF  
REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF  
VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING  
OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

COMMON NAME:	LIMESTONE		
CAS NUMBER:	1317-65-3		
ACGIH(TWA):	10 MG/M3	OSHA(TWA):	5 MG/M3
COMMON NAME:	TITANIUM DIOXIDE		
CAS NUMBER:	13463-67-7		
ACGIH(TWA):	10 MG/M3	OSHA(TWA):	10 MG/M3
COMMON NAME:	QUARTZ		
CAS NUMBER:	14808-60-7		
ACGIH(TWA):	0.025 MG/M3	OSHA(TWA):	0.1 MG/M3

RESPIRATORY PROTECTION

CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE EXPOSURE  
STANDARDS WHEN USING THIS MATERIAL. WHEN RESPIRATORY PROTECTION IS  
DETERMINED TO BE NECESSARY, USE A NIOSH/MSHA (CANADIAN Z94.4) APPROVED

ELASTOMERIC SEALING-SURFACE FACEPIECE RESPIRATOR OUTFITTED WITH ORGANIC VAPOR CARTRIDGES AND PAINT SPRAY (DUST/MIST) PREFILTERS. DETERMINE THE PROPER LEVEL OF PROTECTION BY CONDUCTING APPROPRIATE AIR MONITORING. CONSULT 29CFR1910.134 FOR SELECTION OF RESPIRATORS (CANADIAN Z94.4). 4

#### VENTILATION

PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS

#### PERSONAL PROTECTIVE EQUIPMENT

EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES,  
IMPERVIOUS GLOVES, IMPERVIOUS CLOTHING

#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE	NOT AVAILABLE	SPECIFIC GRAVITY	1.501
BOILING RANGE (F/C)	212-460/100-238	WEIGHT PER GALLON	12.50/15.01 IMP
APPEARANCE	WHITE	%VOLATILE BY VOLUME	42.02
PHYSICAL STATE	PASTE	SOLUBLE IN WATER	YES
PH	7.80		

#### SECTION 10: STABILITY AND REACTIVITY

UNDER NORMAL CONDITIONS	STABLE (SEE SECTION 5 FIRE FIGHTING MEASURES)
MATERIALS TO AVOID	OXIDIZERS, ACIDS, AMMONIUM SALTS
CONDITIONS TO AVOID	FREEZING, SPARKS, OPEN FLAME, IGNITION SOURCES
HAZARDOUS POLYMERIZATION	WILL NOT OCCUR

#### SECTION 11: TOXICOLOGICAL INFORMATION

COMMON NAME	DIETHYLENE GLYCOL DIBENZOATE			
CAS NUMBER	120-55-8			
CARCINOGENICITY LISTED BY	NTP NO	IARC NO	OSHA NO	ACGIH NO
LD50	2830.00 MG/KG ORL RAT			

COMMON NAME	LIMESTONE			
CAS NUMBER	1317-65-3			
CARCINOGENICITY LISTED BY	NTP NO	IARC NO	OSHA NO	ACGIH NO
LD50	6450.00 MG/KG ORL RAT			

COMMON NAME	TITANIUM DIOXIDE			
CAS NUMBER	13463-67-7			
CARCINOGENICITY LISTED BY	NTP YES 2B	IARC YES 2B	OSHA NO	ACGIH NO
LD50	24.00 GM/KG ORL RAT			
LC50	6820.00 MG/M3/4HR DHL RAT			

SECTION 15: REGULATORY INFORMATION

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SARA 302	SARA 313	CERCLA 302.4	HAZ AIR POLLUTANT	MARINE POLYNT
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THIS PRODUCT CONTAINS NO SARA 302, CERCLA 302.4 OR HAZARDOUS AIR POLLUTANT CHEMICALS. IT ALSO CONTAINS NO CHEMICALS WHICH ARE SUBJECT TO THE REPORTING REQUIREMENTS UNDER SARA 313. AS OF THE DATE OF THIS MSDS, ALL OF THE COMPONENTS IN THIS PRODUCT ARE LISTED (OR ARE OTHERWISE EXEMPT FROM LISTING) ON THE TSCA INVENTORY. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR (CONTROLLED PRODUCTS REGULATIONS) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

SECTION 16: OTHER INFORMATION

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COMMON NAME: QUARTZ 6  
CAS NUMBER. 14808-60-7  
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

SUPPLEMENTAL HEALTH INFORMATION

NO ADDITIONAL EFFECTS ARE ANTICIPATED

CARCINOGENICITY CONTAINS CRYSTALLINE SILICA WHICH IS CONSIDERED A HAZARD BY INHALATION. IARC HAS CLASSIFIED CRYSTALLINE SILICA AS CARCINOGENIC TO HUMANS (GROUP 1). CRYSTALLINE SILICA IS ALSO A KNOWN CAUSE OF SILICOSIS, A NONCANCEROUS LUNG DISEASE. THE NATIONAL TOXICOLOGY PROGRAM (NTP) HAS CLASSIFIED CRYSTALLINE SILICA AS A KNOWN HUMAN CARCINOGEN. IN A LIFETIME INHALATION STUDY, EXPOSURE TO 250 MG/M3 TITANIUM DIOXIDE RESULTED IN THE DEVELOPMENT OF LUNG TUMORS IN RATS. THESE TUMORS OCCURRED ONLY AT DUST LEVELS THAT OVERWHELMED THE ANIMALS' LUNG CLEARANCE MECHANISMS AND WERE DIFFERENT FROM COMMON HUMAN LUNG TUMORS IN BOTH TYPE AND LOCATION. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNKNOWN BUT QUESTIONABLE. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED TITANIUM DIOXIDE AS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B) BASED ON INADEQUATE EVIDENCE OF CARCINOGENICITY IN HUMANS AND SUFFICIENT EVIDENCE OF CARCINOGENICITY IN EXPERIMENTAL ANIMALS

REPRODUCTIVE EFFECTS NO REPRODUCTIVE EFFECTS ARE ANTICIPATED  
MUTAGENICITY NO MUTAGENIC EFFECTS ARE ANTICIPATED  
TERATOGENICITY NO TERATOGENIC EFFECTS ARE ANTICIPATED

SECTION 12: ECOLOGICAL INFORMATION

NO ECOLOGICAL TESTING HAS BEEN DONE BY AKZO NOBEL ON THIS PRODUCT AS A WHOLE.

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL. DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS

SECTION 14: TRANSPORT INFORMATION

DOT: CAULKING COMPOUND  
IMDG: NOT AVAILABLE  
IATA: NOT AVAILABLE  
TDG: NOT AVAILABLE



# Material Safety Data Sheet

Construction Chemicals

## DegaBond™ 400

Version 1.3

03/30/200

### 1. PRODUCT AND COMPANY INFORMATION

Company	Degussa Building Systems 889 Valley Park Drive Shakopee, MN 55379
Telephone	952-496-6000
Emergency telephone number	(800) 424-9300 (703) 527-3887 (Outside Continental US)
Product name	DegaBond™ 400
MSDS ID No	11094
TSCA Inventory	All components of this product are included, or are exempt from inclusion, in the EPA Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
Canadian DSL	All components of this product are included, or are exempt from inclusion, in the Canadian Domestic Substance List (DSL)
Product Use Description	Adhesive

### 2. HAZARDOUS INGREDIENTS

<u>Chemical</u>	<u>CAS No.</u>	<u>TLV</u>	<u>STEL</u>	<u>PEL</u>	<u>CEIL</u>	<u>Weight %</u>
N-HEXANE	110-54-3	50 ppm	N.E.	500 ppm	N.E.	10.00 - 30.00 %
TOLUENE	108-88-3	50 ppm	150 ppm	N.E.	300 ppm	7.00 - 13.00 %
SILICA, CRYSTALLINE QUARTZ	14808-60-7	0.05 mg/m <sup>3</sup>	N.E.	5 mg/m <sup>3</sup>	N.E.	0.10 - 1.00 %

### 3. HAZARDS IDENTIFICATION

HMIS® Rating	HEALTH 2	FLAMMABILITY 3	PHYSICAL HAZARD 0
WHMIS Class	B2		
Primary Routes of Entry	Skin absorption Skin contact Eye contact Inhalation Ingestion		

#### Effects of Overexposure

Inhalation	Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting. Inhalation of high vapor concentrations can cause CNS-depression and narcosis. Prolonged inhalation can be harmful.
Skin	Components of the product may be absorbed into the body through the skin. Prolonged skin contact may defat the skin and produce dermatitis. Prolonged or repeated exposure can cause skin irritation and redness.
Eyes	Can cause slight irritation, redness, tearing and blurred vision.

# Material Safety Data Sheet

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Ingestion

Intake can cause gastrointestinal irritation, nausea, and vomiting. Moderate toxicity

Chronic exposure

This product contains solvents. Reports associate repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Reports also indicate that solvents cause liver damage, kidney damage, and mucous membrane irritation. Be warned that intentional misuse by deliberately inhaling the vapors and/or the product contents (a process often called "sniffing") can be harmful or fatal. Chronic overexposure to n-Hexane can cause peripheral polyneuropathy and central nerve damage.

### Carcinogenicity

	ACGIH	IARC	NTP	OSHA
N-HEXANE	N.E.	N.E.	N.E.	N.E.
TOLUENE	Not classifiable as a human carcinogen.	Inadequate data	N.E.	N.E.
SILICA, CRYSTALLINE QUARTZ	Suspected human carcinogen.	Human carcinogen.	Known carcinogen.	N.E.

## 4. FIRST AID MEASURES

Eye contact

Flush eyes with water, lifting upper and lower lids occasionally for 15 minutes. Seek medical attention.

Skin contact

Remove contaminated clothing. Wash thoroughly with soap and water. If irritation persists seek medical attention. Wash contaminated clothing before reuse.

Ingestion

Do not induce vomiting without medical advice. If conscious, drink plenty of water. If a person feels unwell or symptoms of skin irritation appear, consult a physician. If a person vomits, place him/her in the recovery position. Never give anything by mouth to an unconscious person.

Inhalation

: Remove victim from exposure. If difficulty with breathing, administer oxygen. If breathing has stopped administer artificial respiration, preferably mouth-to-mouth. Seek immediate medical attention

## 5. FIRE-FIGHTING MEASURES

Flash point

72.00 °F (22.22 °C) Method: Pensky-Martin C.C.

Autoflammability temperature

no data available

Lower explosion limit

1.2 %(V)

Upper explosion limit

7.5 %(V)

Suitable extinguishing media

foam  
carbon dioxide (CO2)  
dry chemical  
water fog

Fire and Explosion Hazards

Flammable Liquid Can release vapors that form explosive mixtures at temperatures at or above the flashpoint. Vapors can travel to a source of ignition and flash back. Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; CONTAINERS MAY EXPLODE AND CAUSE INJURY OR DEATH. Heating can release vapours which can be ignited. Solid stream of water or

# Material Safety Data Sheet

DegaBond™ 400

Version 1.3

Construction Chemicals

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foam can cause frothing

Special Fire-fighting Procedures: Can be ignited by heat, sparks or flame. At higher temperature pressure build up in sealed containers. Use water to cool containers exposed to fire. As in any fire, wear self-contained breathing apparatus pressure-demand (MSHA/NIOSH approved or equivalent) and full protective gear. Water runoff can cause environmental damage. Dike and collect water used to fight fire.

## 6. ACCIDENTAL RELEASE MEASURES

Methods for cleaning up: Ventilate the area and remove all sources of ignition. Evacuate unnecessary personnel. Take action to eliminate source of leak. Large spills should be handled carefully. Put on respiratory protection and necessary personal protective equipment. Dike or impound spilled liquid. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

## 7. HANDLING AND STORAGE

Handling: Keep out of reach of children. Use only in area provided with appropriate ventilation. Take precautionary measures against static discharges. Ground and bond containers when transferring material. For personal protection see section 8.

Storage: Store in a dry, well ventilated place away from sources of heat, ignition and direct sunlight. Keep container tightly closed.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Eye protection: Wear as appropriate: safety glasses with side-shields, goggles, face-shield.

Hand protection: Wear Chemically resistant gloves.

Body Protection: Wear as appropriate: Chemically resistant clothes, preventive skin protection.

Respiratory protection: In case of insufficient ventilation wear suitable respiratory equipment. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hygienic Practices: Avoid contact with skin, eyes and clothing. Ensure adequate ventilation, especially in confined areas. Wash hands before breaks and at the end of workday. When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice.

Engineering Controls: Local exhaust ventilation can be necessary to control any air contaminants to within their TLVs during the use of this product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Color: tan

# Material Safety Data Sheet

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Physical State	paste
Odor	strong solvent
pH	no data available
Odor Threshold	no data available
Vapor Pressure	no data available
Vapor Density	Heavier than air
Boiling point/range	149 - 232.00 °F (65 - 111.11 °C)
Freeze Point	no data available
Water solubility	slightly soluble
Specific Gravity	1.15
Viscosity	no data available
Evaporation rate	Slower than Butyl acetate
Partition coefficient (n-octanol/water)	no data available
VOC Concentration as applied (less water and exempt solvents)	373 g/l

### 10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Conditions to avoid	Heat, flames and sparks Direct sources of heat. Strong sunlight for prolonged periods. Prolonged exposure to high temperatures
Materials to avoid	oxidizing agents
Hazardous decomposition products	Oxides of carbon
Hazardous polymerization	Will not occur under normal conditions

### 11. TOXICOLOGICAL INFORMATION

#### Acute inhalation toxicity

<u>Product</u>	<u>Type</u> LC50	<u>Value</u> no data available	<u>Species</u>	<u>Exposure time</u>
<u>Component</u>				

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N-HEXANE	LC50	no data available
TOLUENE	LC50	no data available
SILICA, CRYSTALLINE QUARTZ	LC50	no data available

### Acute oral toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>
<u>Component</u>	LD50 (Oral)	no data available	
N-HEXANE	LD50 (Oral)	60 mg/kg	
TOLUENE	LD50 (Oral)	636 mg/kg	
SILICA, CRYSTALLINE QUARTZ	LD50 (Oral)	1,300 mg/kg	

### Acute dermal toxicity

<u>Product</u>	<u>Type</u>	<u>Value</u>	<u>Species</u>
<u>Component</u>	LD50 (Dermal)	no data available	
N-HEXANE	LD50 (Dermal)	91 mg/kg	
TOLUENE	LD50 (Dermal)	20 mg/kg	
SILICA, CRYSTALLINE QUARTZ	LD50 (Dermal)	no data available	

## 12. ECOLOGICAL INFORMATION

Ecotoxicological Information : There is no data available for this product.

## 13. DISPOSAL CONSIDERATIONS

Recommendations: Use excess product in an alternate beneficial application. Handle disposal of waste material in manner which complies with local, state, province and federal regulation.

## 14. TRANSPORT INFORMATION

DOT	Proper shipping name	ADHESIVE
	UN-No	1133
	Class	3
	Packaging group	III
	Primary Label	Flammable liquid
IATA	Proper shipping name	ADHESIVE
	UN-No	1133
	Class	3
	Packaging group	III
	Primary Label	Flammable liquid

# Material Safety Data Sheet

*Construction Chemicals*

## **DegaBond™ 400**

Version 1.3

03/30/200

This information is furnished without warranty, representation, or license of any kind, except that this information is accurate to the best of the manufacturer's knowledge, or is obtained from sources believed by the manufacturer to be accurate and is not intended to be all inclusive. No warranty is expressed or implied regarding the accuracy of this information or the results to be obtained from its use thereof. The manufacturer assumes no responsibility for injuries proximately caused by use of the Material if reasonable safety procedures are not followed as stipulated in this Data Sheet. Additionally, the manufacturer assumes no responsibility for injuries proximately caused by abnormal use of the Material even if reasonable safety procedures are followed. Buyer assumes the risk in its use of the Material.

End of MSDS

# Material Safety Data Sheet

## 24 Hour Emergency Phone Numbers:

Medical: 1-800-327-3874

1-513-558-5111

Transportation:

1-800-535-5053

1-352-323-3500

NOTE: National Response Center emergency numbers to be used only in the event of chemical emergencies involving a spill, leak, fire, exposure or accident involving chemicals.

**IMPORTANT:** Provide this information to employees, customers, and users of this product. Read this MSDS before handling or disposing of this product. This product is covered by the OSHA Hazard Communication Standard and this document has been prepared in accordance with requirements of this standard. All abbreviated terms used in this MSDS are further described in Section 16.

## Section 1 - Chemical Product / Company Information

This Material Safety Data Sheet is available in Canadian French and Hispanic American Spanish upon request.  
Esta hoja de datos de la seguridad de los materiales está disponible en francés canadiense y en español a su solicitud.  
Los Datos de Seguridad del Producto pueden obtenerse en Español si lo requiere.

Product Name: DAP DYNAFLEX 230 - ALL COLORS  
Product UPC Number: 05998 18275 18280 18286 18288 18316 74096  
18412 18418 18420 18607 74084 74086 74108  
Product Use/Class: Latex Caulk  
Manufacturer: DAP Inc.  
2400 Boston Street Suite 200  
Baltimore, MD 21224-4723  
888-327-8477 (non-emergency matters)

Revision Date: 04/18/2005  
Supercedes: 08/30/2002  
MSDS Number: 00010001001

## Section 2 - Composition / Information On Ingredients

Chemical Name	CASRN	WT%	ACGIH TWA	ACGIH STEL	ACGIH CEIL	OSHA TWA	OSHA STEL	OSHA CEIL	Skin
Calcium carbonate	1317-65-3	30-60	10 MGM3	NE	NE	5 MGM3	NE	NE	No
Di(C7&C9) ester branched & linear	PHTHALATE ESTER	1-5	NE	NE	NE	NE	NE	NE	No
Titanium dioxide	13463-67-7	1-5	10 MGM3	NE	NE	15 MGM3	NE	NE	No
Ethylene glycol	107-21-1	0.5-1.5	NE	NE	100 MGM3	NE	NE	NE	No
Silica, crystalline	14808-60-7	0.1-1.0	0.05 MGM3	NE	NE	(10 ~ % SiO <sub>2</sub> ) / 2 MGM3	NE	NE	No
Carbon Black	1333-86-4	0.0-1.5	3.5 MGM3	NE	NE	3.5 MGM3	NE	NE	No
Ammonia	7664-41-7	<0.010	25 PPM	35 PPM	NE	50 PPM	NE	NE	No
Formaldehyde	50-00-0	<0.03	NE	NE	0.3 PPM	0.75 PPM	2 PPM	NE	No
Ethyl acrylate	140-88-5	<0.02	5 PPM	15 PPM	NE	25 PPM	NE	NE	Yes
Acetaldehyde	75-07-0	<0.003	NE	NE	25 PPM	200 PPM	NE	NE	No
Acrylonitrile	107-13-1	<0.0004	2 PPM	NE	NE	2 PPM	10 PPM	NE	Yes

### Exposure Notes:

107-13-1 Acrylonitrile is a specially regulated substance for which an OSHA chemical-specific exposure standard exists. Detailed information regarding this substance may be found in 29 CFR 1910.1045. Medical surveillance information regarding this substance may be found in Appendix C to

29 CFR 1910.1045.

50-00-0 Formaldehyde is a specially regulated substance for which an OSHA chemical-specific exposure standard exists. Detailed information regarding this substance may be found in 29 CFR 1910.1048. Medical surveillance information regarding this substance may be found in Appendix C to 29 CFR 1910.1048.

**Important:** Listed Permissible Exposure Levels (PEL) are from the U.S. Dept. of Labor OSHA Final Rule Limits (CFR 29 1910 1000), these limits may vary between states

**Note:** An employee's skin exposure to substances having a "YES" in the "SKIN" column in the table above shall be prevented or reduced to the extent necessary under the circumstances through the use of gloves, coveralls, goggles or other appropriate personal protective equipment, engineering controls or work practices

### Section 3 - Hazards Identification

**Emergency Overview:** A colored paste with a very slight ammonia odor. **WARNING:** Harmful if swallowed or absorbed through the skin. May cause eye, skin, nose, throat and respiratory tract irritation. This product contains ethylene glycol.

Refer to other MSDS sections for other detailed information.

**Effects Of Overexposure - Eye Contact:** May cause eye irritation.

**Effects Of Overexposure - Skin Contact:** Harmful if absorbed through the skin. May cause allergic reaction or sensitization by skin contact. May cause skin irritation and/or dermatitis.

**Effects Of Overexposure - Inhalation:** May cause irritation of respiratory tract. Prolonged, repeated, or high exposures may cause weakness and depression of the central nervous system. Inhalation of vapors may cause irritation of the nose, throat, lungs and respiratory tract.

**Effects Of Overexposure - Ingestion:** Harmful if swallowed.

**Effects Of Overexposure - Chronic Hazards:** Prolonged and repeated skin contact may cause irritation and possibly dermatitis. Repeated or prolonged exposure may cause respiratory system damage.

Overexposure may cause kidney, cardiovascular, skin and liver damage. Ethylene Glycol may cause kidney and liver damage upon prolonged and repeated overexposures. Studies have shown that repeated inhalation of ethylene glycol has produced adverse cardiovascular changes in laboratory animals. Ethylene glycol has been shown to cause birth defects in laboratory animals.

**Primary Route(s) Of Entry:** Skin Contact, Inhalation, Eye Contact

**Medical Conditions which May be Aggravated by Exposure:** None known

### Section 4 - First Aid Measures

**First Aid - Eye Contact:** In case of contact, immediately flush eyes with large quantities of water for at least 15 minutes until irritation subsides. Get medical attention immediately.

**First Aid - Skin Contact:** Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical aid if symptoms persist. Remove and wash contaminated clothing.

**First Aid - Inhalation:** If inhaled, remove to fresh air. If breathing is difficult, leave the area to obtain fresh air. If



continued breathing difficulty is experienced, get medical attention immediately.

**First Aid - Ingestion:** If swallowed, DO NOT INDUCE VOMITING Get medical attention immediately

**Note to Physician:** None

**COMMENTS:** Call Medical Emergency at 1-800-327-3874 if any irritation or complication arises from any of the above routes of entry

## Section 5 - Fire Fighting Measures

**Flash Point, F:** >200 °F

**Method:** (Setflash Closed Cup)

**Lower Explosive Limit, %:** Not Established

**Upper Explosive Limit, %:** Not Established

**Extinguishing Media:** Carbon Dioxide, Dry Chemical, Foam, Water Fog

**Unusual Fire And Explosion Hazards:** No special protective measures against fire required.

**Special Firefighting Procedures:** Wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear. Use water spray to cool exposed surfaces.

## Section 6 - Accidental Release Measures

**Steps To Be Taken If Material Is Released Or Spilled:** Wear proper protective equipment as specified in Section 8 Use absorbent material or scrape up dried material and place in container

## Section 7 - Handling And Storage

**Handling:** KEEP OUT OF REACH OF CHILDREN! DO NOT TAKE INTERNALLY. Do not breathe vapors Use only with adequate ventilation Wash thoroughly after handling Avoid breathing vapor and contact with eyes, skin and clothing Open all windows and doors or use other means to ensure cross-ventilation and fresh air entry during application and drying Odor is not an adequate warning for hazardous conditions

**Storage:** Close container after each use Store containers away from excessive heat and freezing. Do not store at temperatures above 120 degrees F. Store away from caustics and oxidizers

## Section 8 - Exposure Controls / Personal Protection

**Precautionary Measures:** Please refer to other sections and subsections of this MSDS.

**Engineering Controls:** Good general ventilation should be sufficient to control airborne levels Ensure adequate ventilation, especially in confined areas Local ventilation of emission sources may be necessary to maintain ambient concentrations below recommended exposure limits

**Respiratory Protection:** In case of insufficient ventilation, wear suitable respiratory equipment. A NIOSH-approved air purifying respirator with an organic vapor cartridge or canister may be necessary under certain circumstances where airborne concentrations are expected to exceed exposure limits A respiratory protection program that meets the OSHA 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

**Skin Protection:** Rubber gloves

**Eye Protection:** Goggles or safety glasses with side shields

**Other protective equipment:** Not required under normal use

**Hygienic Practices:** Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday

## Section 9 - Physical And Chemical Properties

<b>Boiling Range:</b>	Not Established	<b>Vapor Density:</b>	Heavier Than Air
<b>Odor:</b>	Very Slight Ammonia	<b>Odor Threshold:</b>	Not Established
<b>Appearance:</b>	Colored	<b>Evaporation Rate:</b>	Slower Than n-Butyl Acetate
<b>Solubility in H<sub>2</sub>O:</b>	Not Established	<b>Specific Gravity:</b>	1.49
<b>Freeze Point:</b>	Not Established	<b>pH:</b>	Between 7.0 and 12.0
<b>Vapor Pressure:</b>	Not Established	<b>Viscosity:</b>	Not Established
<b>Physical State:</b>	Paste		

When reported, vapor pressure of this product has been calculated theoretically based on its constituent makeup and has not been determined experimentally

(See section 16 for abbreviation legend)

## Section 10 - Stability And Reactivity

**Conditions To Avoid:** Excessive heat and freezing

**Incompatibility:** Incompatible with strong bases and oxidizing agents

**Hazardous Decomposition Products:** Normal decomposition products, i.e., CO<sub>x</sub>, NO<sub>x</sub>.

**Hazardous Polymerization:** Hazardous polymerization will not occur under normal conditions

**Stability:** Stable under recommended storage conditions

## Section 11 - Toxicological Information

**Product LD50:** Not Established

**Product LC50:** Not Established

CASRN	Chemical Name	LD50	LC50	WT%
PHTHALATE ESTER	Ester Branched & Linear(C7&C9)	Oral Rat 10 mg/kg	-----	1-5
107-21-1	Ethylene glycol	Rat 4700 mg/kg	Rat 10876 mg/kg	0.5-1.5
7664-41-7	Ammonia	-----	Rat 2000 ppm/4H	<0.010
50-00-0	Formaldehyde	-----	Rat 203 mg/m <sup>3</sup>	<0.03
140-88-5	Ethyl acrylate	-----	Rat 1414 ppm/4H	<0.02
75-07-0	Acetaldehyde	-----	Rat 13300 ppm/4H	<0.003
107-13-1	Acrylonitrile	Oral Rat 78 mg/kg	Rat 425 ppm/4H	<0.0004

**Carcinogenicity:**

CAS No.	Chemical Name	ACGIH	OSHA	IARC	NTP	WT%
13463-67-7	Titanium dioxide	---	---	Classification not possible from current data	---	1-5
14808-60-7	Silica, crystalline	Suspected human carcinogen	---	---	Known carcinogen	0.1-10
50-00-0	Formaldehyde	Suspected human carcinogen	Potential cancer hazard	Human carcinogen	Anticipated carcinogen	<0.03
140-88-5	Ethyl acrylate	---	---	Possible carcinogen	---	<0.02

75-07-0	Acetaldehyde	Confirmed animal carcinogen with unknown relevance to humans.	---	Possible carcinogen	Anticipated carcinogen	<0.003
107-13-1	Acrylonitrile	Confirmed animal carcinogen with unknown relevance to humans	Cancer hazard	Possible carcinogen	Anticipated carcinogen	<0.0004
79-06-1	Acrylamide	Confirmed animal carcinogen with unknown relevance to humans	---	Probable carcinogen	Anticipated carcinogen	<0.0001

**Significant Data with Possible Relevance to Humans:** This product contains trace amounts of acrylonitrile. It is exempt from the OSHA acrylonitrile standard 29 CFR 1910.1045, paragraph (a) (2) (ii). Acrylonitrile has been classified by IARC as possibly carcinogenic to humans, by OSHA as carcinogenic and by NTP as reasonably anticipated to be a human carcinogen.

This product contains trace amounts of free formaldehyde. OSHA and NTP identify formaldehyde as a potential carcinogen. IARC identifies formaldehyde as a human carcinogen. Formaldehyde has been shown to cause mutations in a variety of in-vitro test systems, the significance of which to humans is unknown. There should be minimal risk when used with ventilation adequate to keep the atmospheric concentration of formaldehyde below the recommended exposure limits. Maintain adequate ventilation to prevent exposure above current OSHA / ACGIH exposure limits. Workplace monitoring of the air to define formaldehyde exposure levels may be necessary.

## Section 12 - Ecological Information

**Ecological Information:** Ecological injuries are not known or expected under normal use.

## Section 13 - Disposal Information

**Disposal Information:** Dispose of material in accordance with all federal, state and local regulations. State and local regulations/restrictions are complex and may differ from Federal regulations. Responsibility for proper waste disposal is with the owner of the waste.

**EPA Waste Code if Discarded (40 CFR Section 261):** This product does not meet the definition of a hazardous waste according to U.S. EPA Hazardous Waste Management Regulation, 40 CFR Section 261.

## Section 14 - Transportation Information

DOT Proper Shipping Name:	Not Regulated	Packing Group:	N A
DOT Technical Name:	N A	Hazard Subclass:	N A
DOT Hazard Class:	N A	DOT UN/NA Number:	N A

Note: The shipping information provided is applicable for domestic ground transport only. Different categorization may apply if shipped via other modes of transportation and/or to non-domestic destinations.

## Section 15 - Regulatory Information

**CERCLA - SARA Hazard Category:**

This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and

312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories.

Immediate Health Hazard      Chronic Health Hazard

#### SARA Section 313:

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372

Chemical Name	CAS Number	WT%
Ethylene glycol	107-21-1	05-15

#### Toxic Substances Control Act:

All ingredients in this product are either on TSCA inventory list, or otherwise exempt

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States

None

#### U.S. State Regulations

##### New Jersey Right-to-Know:

The following materials are non-hazardous, but are among the top five components in this product

Chemical Name	CAS Number	WT%
Non-Hazardous Polymer	Proprietary	15-40
Water	7732-18-5	10-30

##### Pennsylvania Right-to-Know:

The following non-hazardous ingredients are present in the product at greater than 3%

Chemical Name	CAS Number	WT%
Non-Hazardous Polymer	Proprietary	15-40
Water	7732-18-5	10-30

##### California Proposition 65:

Warning The following ingredients present in the product are known to the State of California to cause cancer

Chemical Name	CAS Number	Definition	Date Listed	WT%
Silica, crystalline	14808-60-7	Carcinogenic	Listed October 1, 1988	01-10
Formaldehyde	50-00-0	Carcinogenic	Listed January 1, 1988	<0.03
Ethyl acrylate	140-88-5	Carcinogenic	Listed July 1, 1989	<0.02
Acetaldehyde	75-07-0	Carcinogenic	Listed April 1, 1988	<0.003
Acrylonitrile	107-13-1	Carcinogenic	Listed July 1, 1987	<0.0001
Acrylamide	79-06-1	Carcinogenic	Listed January 1, 1990	<0.0001

Warning: The following ingredients present in the product are known to the State of California to cause birth defects or other reproductive harm

None

## Section 16 - Other Information

### HMS Ratings:

Health: 1                      Flammability: 1                      Reactivity: 0                      Personal Protection: X

VOLATILE ORGANIC COMPOUNDS, GR/LTR 23.5                      LB/GAL. 0.2                      WT% 1.132

REASON FOR REVISION: Periodic Update

### Legend:

N A - Not Applicable	ACGIH - American Conference of Governmental Industrial Hygienists
N E - Not Established	SARA - Superfund Amendments and Reauthorization Act of 1986
N D - Not Determined	NJRTK - New Jersey Right-to-Know Law
VOC - Volatile Organic Compound	OSHA - Occupational Safety and Health Administration
PEL - Permissible Exposure Limit	HMS - Hazardous Materials Identification System
TLV - Threshold Limit Value	NTP - National Toxicology Program
STEL - Short Term Exposure Limit	CEIL - Ceiling Exposure Limit
LD50 - Lethal Dose 50	LC50 - Lethal Concentration 50
F - Degree Fahrenheit	C - Degree Celsius
MSDS - Material Safety Data Sheet	CASRN - The Chemical Abstracts Service Registry Number

DAP believes the data and statements contained herein are accurate as of the date hereof. They are offered in good faith as typical values and not as a product specification. **NO WARRANTY OF MERCHANTABILITY, WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE WITH REGARD TO THE INFORMATION HEREIN PROVIDED OR THE PRODUCT TO WHICH THE INFORMATION REFERS.** Since this document is intended only as a guide to the appropriate use and precautionary handling of the referenced product by a properly trained person, it is therefore the responsibility of the user to (i) review the recommendations with due consideration for the specific context of the intended use and (ii) determine if they are appropriate.

<End of MSDS>





**MSDS for: LN-901**

Revised: 12-Feb-2009 /

**SECTION 1:**

PRODUCT IDENTIFIER: LN-901 HEAVY DUTY CONSTRUCTION &  
REMODELING ADHESIVE  
DATE OF PREPARATION: JANUARY 30, 2008  
PRODUCT USE: ADHESIVE

MANUFACTURED BY: AKZO NOBEL  
15885 WEST SPRAGUE ROAD  
STRONGSVILLE, OHIO 44136, U.S.A.  
  
AKZO NOBEL (CANADA)  
8200 KEELE STREET  
CONCORD, ONTARIO L4K 2A5, CANADA

EMERGENCY AND MSDS TELEPHONE NUMBER:

1-800-545-2643

MSDS PREPARED BY: PRODUCT SAFETY AND COMPLIANCE DEPARTMENT  
AKZO NOBEL NORTH AMERICA

**SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS**

INGREDIENT		WT. %
CHEMICAL NAME:	CYCLOHEXANE	
COMMON NAME:	CYCLOHEXANE	1-5
CAS NUMBER:	110-82-7	
CHEMICAL NAME:	LIMESTONE	
COMMON NAME:	LIMESTONE	10-20
CAS NUMBER:	1317-65-3	
CHEMICAL NAME:	KAOLIN	
COMMON NAME:	CLAY	20-30
CAS NUMBER:	1332-58-7	
CHEMICAL NAME:	TITANIUM OXIDE	
COMMON NAME:	TITANIUM DIOXIDE	0.1-1.0
CAS NUMBER:	13463-67-7	
CHEMICAL NAME:	HEPTANE	
COMMON NAME:	HEPTANE	1-5
CAS NUMBER:	142-82-5	
CHEMICAL NAME:	CRISTOBALITE	
COMMON NAME:	CRYSTALLINE SILICA, CRISTOBALITE	0.1-1.0
CAS NUMBER:	14464-46-1	
CHEMICAL NAME:	QUARTZ	
COMMON NAME:	QUARTZ	1-5
CAS NUMBER:	14808-60-7	

CHEMICAL NAME:	BENZENE, 1,3-DIETHENYL-, POLYMER WITH 1,3-BUTADIENE AND ETHENYLBENZENE	1-5	2
COMMON NAME:	STYRENE-BUTADIENE POLYMER		
CAS NUMBER:	26471-45-4		
CHEMICAL NAME:	HEPTANE, BRANCHED, CYCLIC AND LINEAR	5-10	
COMMON NAME:	HEPTANE, BRANCHED, CYCLIC AND LINEAR		
CAS NUMBER:	426260-76-6		
CHEMICAL NAME:	SOLVENT NAPHTHA (PETROLEUM), LIGHT ALIPHATIC	1-5	
COMMON NAME:	LIGHT ALIPHATIC SOLVENT NAPHTHA (PETROLEUM)		
CAS NUMBER:	64742-89-8		
CHEMICAL NAME:	ALKENES, ETHYLENE-MANUF.-BY-PRODUCT	10-20	
COMMON NAME:	PIPERYLENE-CUT, POLYMERS WITH STEAM-CRACKED		
CAS NUMBER:	PETROLEUM DISTILLATES		
COMMON NAME:	RESIN		
CAS NUMBER:	68131-89-5		
CHEMICAL NAME:	DISTILLATES, PETROLEUM, LIGHT DISTILLATE	10-20	
COMMON NAME:	HYDROTREAT PROCESS, LOW-BOILING		
CAS NUMBER:	HYDROTREATED LIGHT DISTILLATE		
CAS NUMBER:	68410-97-9		
CHEMICAL NAME:	BENZENE, ETHENYL-, POLYMER WITH 1,3-BUTADIENE	1-5	
COMMON NAME:	STYRENE-BUTADIENE POLYMER		
CAS NUMBER:	9003-55-8		

### SECTION 3: HAZARDS IDENTIFICATION

PRIMARY ROUTE(S) OF EXPOSURE    INHALATION, SKIN CONTACT, EYE CONTACT, INGESTION

#### EFFECTS OF OVEREXPOSURE

INHALATION:	IRRITATION OF RESPIRATORY TRACT. PROLONGED INHALATION MAY LEAD TO LOSS OF APPETITE, FATIGUE, DROWSINESS, DIZZINESS AND/OR LIGHTHEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, VOMITING, DIARRHEA, COUGHING, CENTRAL NERVOUS SYSTEM DEPRESSION, INTOXICATION, ANESTHETIC EFFECT OR NARCOSIS, DIFFICULTY OF BREATHING, CONVULSIONS, PNEUMOCONIOSIS, LOSS OF CONSCIOUSNESS, ASPHYXIATION.
SKIN CONTACT	IRRITATION OF SKIN MAY CAUSE SKIN IRRITATION. PROLONGED OR REPEATED CONTACT CAN CAUSE DERMATITIS, DEFATTING, SEVERE SKIN IRRITATION OR BURNS.
EYE CONTACT	IRRITATION OF EYES. PROLONGED OR REPEATED CONTACT CAN CAUSE CONJUNCTIVITIS, BLURRED VISION, TEARING OF EYES, REDNESS OF EYES, SEVERE EYE IRRITATION, SEVERE EYE IRRITATION OR BURNS.
INGESTION	INGESTION MAY CAUSE LUNG INFLAMMATION AND DAMAGE DUE TO ASPIRATION OF MATERIAL INTO LUNGS, FATIGUE,

DROWSINESS, DIZZINESS AND/OR LIGHTEADEDNESS, HEADACHE, UNCOORDINATION, NAUSEA, VOMITING, DIARRHEA, GASTRO-INTESTINAL DISTURBANCES, ABDOMINAL PAIN, CENTRAL NERVOUS SYSTEM DEPRESSION, RESPIRATORY PROBLEMS, INTOXICATION, DIFFICULTY OF BREATHING, PULMONARY EDEMA, CONVULSIONS, LOSS OF CONSCIOUSNESS

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:

EYE, SKIN, RESPIRATORY DISORDERS, LUNG DISORDERS, CARDIAC ABNORMALITIES, RESPIRATORY DISORDERS, SKIN DISORDERS

SECTION 4: FIRST-AID MEASURES

- INHALATION: REMOVE TO FRESH AIR. RESTORE AND SUPPORT CONTINUED BREATHING. GET EMERGENCY MEDICAL ATTENTION. HAVE TRAINED PERSON GIVE OXYGEN IF NECESSARY. GET MEDICAL HELP FOR ANY BREATHING DIFFICULTY.
- SKIN CONTACT: WASH THOROUGHLY WITH SOAP AND WATER. IF ANY PRODUCT REMAINS, GENTLY RUB PETROLEUM JELLY, VEGETABLE OR MINERAL/BABY OIL ONTO SKIN. REPEATED APPLICATIONS MAY BE NEEDED. REMOVE CONTAMINATED CLOTHING. WASH CONTAMINATED CLOTHING BEFORE RE-USE.
- EYE CONTACT: FLUSH IMMEDIATELY WITH LARGE AMOUNTS OF WATER, ESPECIALLY UNDER LIDS FOR AT LEAST 15 MINUTES. IF IRRITATION OR OTHER EFFECTS PERSIST, OBTAIN MEDICAL TREATMENT.
- INGESTION: IF SWALLOWED, OBTAIN MEDICAL TREATMENT IMMEDIATELY

SECTION 5: FIRE-FIGHTING MEASURES

FLASH POINT (SETA): 1 F / -17 C	LOWER EXPLOSIVE LIMIT:	1.2 %
	UPPER EXPLOSIVE LIMIT:	6.7 %

FIRE EXTINGUISHING MEDIA: DRY CHEMICAL OR FOAM, WATER FOG, CARBON DIOXIDE

UNUSUAL FIRE AND EXPLOSION HAZARDS

CLOSED CONTAINERS MAY EXPLODE WHEN EXPOSED TO EXTREME HEAT OR FIRE. VAPORS MAY IGNITE EXPLOSIVELY AT AMBIENT TEMPERATURES. VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL LONG DISTANCES TO A SOURCE OF IGNITION AND FLASH BACK. VAPORS CAN FORM EXPLOSIVE MIXTURES IN AIR AT ELEVATED TEMPERATURES. CLOSED CONTAINERS MAY BURST IF EXPOSED TO EXTREME HEAT OR FIRE. MAY DECOMPOSE UNDER FIRE CONDITIONS EMITTING IRRITANT AND/OR TOXIC GASES.

FIRE FIGHTING PROCEDURES

WATER MAY BE USED TO COOL AND PROTECT EXPOSED CONTAINERS. FIREFIGHTERS SHOULD USE FULL PROTECTIVE CLOTHING, EYE PROTECTION, AND SELF-CONTAINED BREATHING APPARATUS.

4/

HAZARDOUS DECOMPOSITION OR COMBUSTION PRODUCTS

CARBON MONOXIDE, CARBON DIOXIDE, ACROLEIN, METHANE, ALDEHYDES,  
TOXIC GASES, OXIDES OF CALCIUM, KETONES

SECTION 6: ACCIDENTAL RELEASE MEASURES

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

COMPLY WITH ALL APPLICABLE HEALTH AND ENVIRONMENTAL REGULATIONS.  
ELIMINATE ALL SOURCES OF IGNITION. VENTILATE AREA WITH EXPLOSION-PROOF  
EQUIPMENT. SPILLS MAY BE COLLECTED WITH ABSORBENT MATERIALS. USE NON-  
SPARKING TOOLS. EVACUATE ALL UNNECESSARY PERSONNEL. PLACE COLLECTED  
MATERIAL IN PROPER CONTAINER. WET DOWN SPILLED MATERIAL WITH WATER.  
COMPLETE PERSONAL PROTECTIVE EQUIPMENT MUST BE USED DURING CLEANUP.

LARGE SPILLS: SHUT OFF LEAK IF SAFE TO DO SO. DIKE AND CONTAIN SPILL. PUMP TO  
STORAGE OR SALVAGE VESSELS. USE ABSORBENT TO PICK UP EXCESS  
RESIDUE. KEEP SALVAGEABLE MATERIAL AND RINSE WATER OUT OF  
SEWERS AND WATER COURSES.

SMALL SPILLS: USE ABSORBENT TO PICK UP RESIDUE AND DISPOSE OF PROPERLY

SECTION 7: HANDLING AND STORAGE

STORE BELOW 80F KEEP AWAY FROM HEAT, SPARKS AND OPEN FLAME.

OTHER PRECAUTIONS

USE ONLY WITH ADEQUATE VENTILATION. DO NOT TAKE INTERNALLY. KEEP OUT OF  
REACH OF CHILDREN. AVOID CONTACT WITH SKIN AND EYES, AND BREATHING OF  
VAPORS. WASH HANDS THOROUGHLY AFTER HANDLING, ESPECIALLY BEFORE EATING  
OR SMOKING. KEEP CONTAINERS TIGHTLY CLOSED AND UPRIGHT WHEN NOT IN USE.  
AVOID CONDITIONS WHICH RESULT IN FORMATION OF INHALABLE PARTICLES SUCH AS  
SPRAYING OR ABRADING (SANDING) PAINTED SURFACES. IF SUCH CONDITIONS CANNOT  
BE AVOIDED, USE APPROPRIATE RESPIRATORY PROTECTION AS DIRECTED UNDER  
EXPOSURE CONTROLS/PERSONAL PROTECTION. EMPTY CONTAINERS MAY CONTAIN  
HAZARDOUS RESIDUES. GROUND EQUIPMENT WHEN TRANSFERRING TO PREVENT  
ACCUMULATION OF STATIC CHARGE.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

COMMON NAME	CYCLOHEXANE		
CAS NUMBER:	110-82-7		
ACGIH(TWA):	100 PPM	OSHA(TWA):	300 PPM
COMMON NAME:	LIMESTONE		
CAS NUMBER	1317-65-3		
ACGIH(TWA):	10 MG/M3	OSHA(TWA):	5 MG/M3
COMMON NAME:	CLAY		
CAS NUMBER	1332-58-7		
ACGIH(TWA)	2 MG/M3	OSHA(TWA)	5 MG/M3

COMMON NAME: TITANIUM DIOXIDE  
 CAS NUMBER: 13463-67-7  
 ACGIH(TWA): 10 MG/M3 OSHA(TWA): 10 MG/M3

COMMON NAME: HEPTANE  
 CAS NUMBER: 142-82-5  
 ACGIH(TWA): 400 PPM OSHA(TWA): 500 PPM  
 ACGIH(STEL): 500 PPM

COMMON NAME: CRYSTALLINE SILICA, CRISTOBALITE  
 CAS NUMBER: 14464-46-1  
 ACGIH(TWA): 0.025 MG/M3 OSHA(TWA): 0.05 MG/M3

COMMON NAME: QUARTZ  
 CAS NUMBER: 14808-60-7  
 ACGIH(TWA): 0.025 MG/M3 OSHA(TWA): 0.1 MG/M3

COMMON NAME: LIGHT ALIPHATIC SOLVENT NAPHTHA (PETROLEUM)  
 CAS NUMBER: 64742-89-8  
 OSHA(TWA): 300 PPM

COMMON NAME: HYDROTREATED LIGHT DISTILLATE  
 CAS NUMBER: 68410-97-9  
 OSHA(TWA): 500 PPM

RESPIRATORY PROTECTION

CONTROL ENVIRONMENTAL CONCENTRATIONS BELOW APPLICABLE EXPOSURE STANDARDS WHEN USING THIS MATERIAL. WHEN RESPIRATORY PROTECTION IS DETERMINED TO BE NECESSARY, USE A NIOSH/MSHA (CANADIAN 294.4) APPROVED ELASTOMERIC SEALING-SURFACE FACEPIECE RESPIRATOR OUTFITTED WITH ORGANIC VAPOR CARTRIDGES AND PAINT SPRAY (DUST/MIST) PREFILTERS. DETERMINE THE PROPER LEVEL OF PROTECTION BY CONDUCTING APPROPRIATE AIR MONITORING CONSULT 29CFR1910.134 FOR SELECTION OF RESPIRATORS (CANADIAN 294.4).

VENTILATION

PROVIDE DILUTION VENTILATION OR LOCAL EXHAUST TO PREVENT BUILD-UP OF VAPORS. USE EXPLOSION-PROOF EQUIPMENT USE NON-SPARKING EQUIPMENT

PERSONAL PROTECTIVE EQUIPMENT

EYE WASH, SAFETY SHOWER, SAFETY GLASSES OR GOGGLES, IMPERVIOUS GLOVES, IMPERVIOUS CLOTHING, FACE SHIELD

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

VAPOR PRESSURE:	NOT AVAILABLE	SPECIFIC GRAVITY:	1.130
BOILING RANGE (F/C)	182-220/ 83-104	WEIGHT PER GALLON:	9.41 / 11.30 IMP
APPEARANCE:	TAN	%VOLATILE BY VOLUME	56.23
PHYSICAL STATE	PASTE	SOLUBLE IN WATER:	NO
PH:	N/A		

SECTION 10: STABILITY AND REACTIVITY

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UNDER NORMAL CONDITIONS: STABLE (SEE SECTION 5 FIRE FIGHTING MEASURES)

MATERIALS TO AVOID: OXIDIZERS, ACIDS, HALOGENS, AMMONIUM SALTS, PEROXIDES, STYRENE MONOMER

CONDITIONS TO AVOID: ELEVATED TEMPERATURES, CONTACT WITH OXIDIZING AGENT, SPARKS, OPEN FLAME, IGNITION SOURCES

HAZARDOUS POLYMERIZATION: WILL NOT OCCUR

SECTION 11: TOXICOLOGICAL INFORMATION

COMMON NAME: CYCLOHEXANE  
CAS NUMBER: 110-82-7  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
LD50: > 180.00 GM/KG SKN RBT  
LD50: 12.70 GM/KG ORL RAT  
LC50: 70.00 PPM IHL MAM

COMMON NAME: LIMESTONE  
CAS NUMBER: 1317-65-3  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
LD50: 6450.00 MG/KG ORL RAT

COMMON NAME: CLAY  
CAS NUMBER: 1332-58-7  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: TITANIUM DIOXIDE  
CAS NUMBER: 13463-67-7  
CARCINOGENICITY LISTED BY: NTP YES 2B IARC YES 2B OSHA NO ACGIH NO  
LD50: 24.00 GM/KG ORL RAT  
LC50: 6820.00 MG/M3/4HR IHL RAT

COMMON NAME: HEPTANE  
CAS NUMBER: 142-82-5  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
LD50: 222.00 MG/KG IVN MOU

COMMON NAME: CRYSTALLINE SILICA, CRISTOBALITE  
CAS NUMBER: 14464-46-1  
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

COMMON NAME: QUARTZ  
CAS NUMBER: 14808-60-7  
CARCINOGENICITY LISTED BY: NTP YES IARC YES 1 OSHA NO ACGIH YES A2

COMMON NAME: HEPTANE, BRANCHED, CYCLIC AND LINEAR  
CAS NUMBER: 426260-76-6  
CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO



COMMON NAME: LIGHT ALIPHATIC SOLVENT NAPHTHA (PETROLEUM)  
 CAS NUMBER: 64742-89-8  
 CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO  
 LD50: > 3 16 GM/KG SKN RBT  
 LD50: > 5.00 GM/KG ORL RAT

COMMON NAME: RESIN  
 CAS NUMBER: 68131-89-5  
 CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: HYDROTREATED LIGHT DISTILLATE  
 CAS NUMBER: 68410-97-9  
 CARCINOGENICITY LISTED BY: NTP NO IARC NO OSHA NO ACGIH NO

COMMON NAME: STYRENE-BUTADIENE POLYMER  
 CAS NUMBER: 9003-55-8  
 CARCINOGENICITY LISTED BY: NTP NO IARC YES 3 OSHA NO ACGIH NO

SUPPLEMENTAL HEALTH INFORMATION

CONTAINS A CHEMICAL THAT MAY BE ABSORBED THROUGH SKIN.

NOTICE - REPORTS HAVE ASSOCIATED REPEATED AND PROLONGED OCCUPATIONAL OVEREXPOSURE TO SOLVENTS WITH PERMANENT BRAIN AND NERVOUS SYSTEM DAMAGE INTENTIONAL MISUSE BY DELIBERATELY CONCENTRATING AND INHALING THE CONTENTS MAY BE HARMFUL OR FATAL. OTHER EFFECTS OF OVEREXPOSURE MAY INCLUDE TOXICITY TO CENTRAL NERVOUS SYSTEM.

CARCINOGENICITY CONTAINS CRYSTALLINE SILICA WHICH IS CONSIDERED A HAZARD BY INHALATION. IARC HAS CLASSIFIED CRYSTALLINE SILICA AS CARCINOGENIC TO HUMANS (GROUP 1). CRYSTALLINE SILICA IS ALSO A KNOWN CAUSE OF SILICOSIS, A NONCANCEROUS LUNG DISEASE. THE NATIONAL TOXICOLOGY PROGRAM (NTP) HAS CLASSIFIED CRYSTALLINE SILICA AS A KNOWN HUMAN CARCINOGEN. IN A LIFETIME INHALATION STUDY, EXPOSURE TO 250 MG/M3 TITANIUM DIOXIDE RESULTED IN THE DEVELOPMENT OF LUNG TUMORS IN RATS. THESE TUMORS OCCURRED ONLY AT DUST LEVELS THAT OVERWHELMED THE ANIMALS' LUNG CLEARANCE MECHANISMS AND WERE DIFFERENT FROM COMMON HUMAN LUNG TUMORS IN BOTH TYPE AND LOCATION. THE RELEVANCE OF THESE FINDINGS TO HUMANS IS UNKNOWN BUT QUESTIONABLE. THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) HAS CLASSIFIED TITANIUM DIOXIDE AS POSSIBLY CARCINOGENIC TO HUMANS (GROUP 2B) BASED ON INADEQUATE EVIDENCE OF CARCINOGENICITY IN HUMANS AND SUFFICIENT EVIDENCE OF CARCINOGENICITY IN EXPERIMENTAL ANIMALS.

REPRODUCTIVE EFFECTS NO REPRODUCTIVE EFFECTS ARE ANTICIPATED

MUTAGENICITY. NO MUTAGENIC EFFECTS ARE ANTICIPATED

TERATOGENICITY NO TERATOGENIC EFFECTS ARE ANTICIPATED

**SECTION 12: ECOLOGICAL INFORMATION**

NO ECOLOGICAL TESTING HAS BEEN DONE BY AKZO NOBEL ON THIS PRODUCT AS A WHOLE.

**SECTION 13: DISPOSAL CONSIDERATIONS**

WASTE DISPOSAL. DISPOSE IN ACCORDANCE WITH ALL APPLICABLE REGULATIONS.

**SECTION 14: TRANSPORT INFORMATION**

DOT: UN1133, ADHESIVES, 3, PGIII,ERG 128  
IMDG: UN1133, ADHESIVES, CLASS 3, PG III, LTD QTY, (IMDG 3.4.7,2.3.2.3) ERG128  
IATA: ID8000, CONSUMER COMMODITY, 9  
TDG: NOT AVAILABLE

**SECTION 15: REGULATORY INFORMATION**

	SARA 302	SARA 313	CERCLA 302.4	HAZ AIR POLLUTANT	MARINE POLTNT
CAS NUMBER: 110-82-7	NO	YES	YES	NO	NO
COMMON NAME CYCLOHEXANE					

AS OF THE DATE OF THIS MSDS, ALL OF THE COMPONENTS IN THIS PRODUCT ARE LISTED (OR ARE OTHERWISE EXEMPT FROM LISTING) ON THE TSCA INVENTORY. THIS PRODUCT HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CPR (CONTROLLED PRODUCTS REGULATIONS) AND THE MSDS CONTAINS ALL THE INFORMATION REQUIRED BY THE CPR.

**SECTION 16: OTHER INFORMATION**

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA AVAILABLE AT THE TIME OF PREPARATION OF THIS DATA SHEET AND WHICH AKZO NOBEL BELIEVES TO BE RELIABLE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THIS DATA. AKZO NOBEL SHALL NOT BE RESPONSIBLE FOR THE USE OF THIS INFORMATION, OR OF ANY PRODUCT, METHOD OR APPARATUS MENTIONED AND YOU MUST MAKE YOUR OWN DETERMINATION OF ITS SUITABILITY AND COMPLETENESS FOR YOUR OWN USE, FOR THE PROTECTION OF THE ENVIRONMENT, AND THE HEALTH AND SAFETY OF YOUR EMPLOYEES AND USERS OF THIS MATERIAL. COMPLIES WITH OSHA HAZARD COMMUNICATION STANDARD 29CFR1910.1200.

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# MATERIAL SAFETY DATA SHEET

## BLUE CHALK - STANDARD

### SECTION 1 - IDENTIFICATION OF PRODUCT

**TRADE NAME:** BLUE CONSTRUCTION CHALK

**CI NAME:** N/A

#### COMPOSITION:

Component	CAS No.	%
Ultramarine Blue - Pigment Blue 29	57455-37-5	10-25
Calcium Carbonate	471-34-1	75-90
Silica-Crystalline Quartz <sup>(1)</sup>	14808-60-7	0.01-1.5

(1) Calcium carbonate may contain crystalline silica at levels between 0.01% - 1.50% and varies naturally.

**SUPPLIER:** DELTA COLOURS INC.  
**MANUFACTURER:** DELTA COLOURS INC.  
6369 PEACHTREE ST NE  
NORCROSS, GA 30071

**EMERGENCY TELEPHONE NO:** 770-277-8819 or 800-866-6981

DATE PREPARED - 03/15/2007

### SECTION 2 - HAZARDOUS INGREDIENTS

NO KNOWN HAZARDOUS COMPONENTS

### SECTION 3 - PHYSICAL DATA

**APPEARANCE:** BLUE POWDER  
**ODOR:** NONE  
**SOLUBILITY IN WATER:** 0.3%  
**BULK DENSITY:** N/A

### SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

**EXTINGUISHING MEDIA:** WATER, DRY CHEMICAL, CARBON DIOXIDE, AND FOAM.

**UNUSUAL FIRE AND EXPLOSION HAZARDS:** PRODUCT IS PRODUCED TO MINIMIZE DUSTING, BUT SINCE MOST POWDER PRODUCTS AS DUSTS CAN FORM EXPLOSIVE MIXTURES WITH AIR, HANDLE TO VOID DUSTING CONDITIONS. PRODUCT NOT CONSIDERED A FIRE HAZARD, BUT MAY BURN OR SMOLDER IF IGNITED.



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# MATERIAL SAFETY DATA SHEET

### **SECTION 5 – REACTIVITY HAZARDS AND INFORMATION**

**STABILITY:** STABLE

**HAZARDOUS DECOMPOSITION PRODUCTS:** NONE

**HAZARDOUS POLYMERIZATION:** WILL NOT OCCUR.

**THERMAL DECOMPOSITION:** 350C

### **SECTION 6 – HEALTH HAZARDS AND INFORMATION**

**EYE CONTACT:** DIRECT EYE CONTACT MAY CAUSE IRRITATION BY MECHANICAL ABRASION.

**SKIN CONTACT:** DIRECT EYE CONTACT MAY CAUSE IRRITATION BY MECHANICAL ABRASION.

**EFFECTS OF CHRONIC OVEREXPOSURE:** AS TRUE WITH ANY MINERAL PRODUCT, LONG TERM OVEREXPOSURE TO HIGH CONCENTRATIONS OF DUST WITHOUT THE USE OF A DUST MASK MAY PRODUCE X-RAY EVIDENCE OF RESPIRATORY DYSFUNCTION IN SOME INDIVIDUALS.

**MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:** INHALING RESPIRABLE DUST MAY AGGRAVATE EXISTING RESPIRATORY SYSTEM DISEASE(S) AND/OR DYSFUNCTION. EXPOSURE TO DUST MAY AGGRAVATE EXISTING SKIN AND OR EYE CONDITIONS.

### **SECTION 7 – PRECAUTIONS FOR SAFE HANDLING, USE/DISPOSAL**

**STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:** SPILLS SHOULD BE CLEANED UP USING SPECIAL VACUUM CLEANERS OR WET MOPPING. IF THESE METHODS ARE NOT FEASIBLE, THE BULK OF THE SPILL MAY BE SWEEPED UP TAKING CARE TO AVOID EXPOSURE TO DUSTS. RESIDUES AND MINOR QUANTITIES OF DYES MAY BE FLUSHED TO A DRAIN IF ACCEPTABLE TO THE WASTEWATER TREATMENT PLANT. FOLLOW ALL PRECAUTIONS FOR HANDLING THIS PRODUCT WHEN DEALING WITH SPILLS.

**WASTE DISPOSAL METHOD:** SPILLED MATERIALS SHOULD BE RETURNED TO USE, IF POSSIBLE. IF NOT, WASTE MATERIAL MAY BE DUMPED OR INCINERATED UNDER CONDITIONS WHICH MEET ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL CONTROL REGULATIONS.

### **SECTION 8 – CONTROL AND PROTECTIVE MEASURES – SPECIAL USE PRECAUTIONS**

**RESPIRATORY PROTECTION:** AN APPROPRIATE NIOSH APPROVED RESPIRATOR OR DUST SHOULD BE WORN WHEN HANDLING THIS PRODUCT.



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# MATERIAL SAFETY DATA SHEET

**VENTILATION:** USE OF LOCAL VENTILATION IS SUGGESTED WHEN USING THIS PRODUCT. HOWEVER, USE OF GOOD GENERAL VENTILATION IS ACCEPTABLE.

**EYE PROTECTION:** WEAR SAFETY GLASSES WITH SIDE SHIELDS.

**OTHER PROTECTIVE EQUIPMENT:** WEAR IMPERMEABLE RUBBER OR PLASTIC GLOVES. WEAR A RUBBER OR PLASTIC APRON. WEAR NORMAL WORK CLOTHES - LONG SLEEVED SHIRT AND PANTS - CLEAN EVERY SHIFT.

**OTHER PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING:** STORE WITH CONTAINER CLOSED IN A DRY PLACE AWAY FROM EXCESSIVE HEAT AND OPEN FLAMES. AVOID UNNECESSARY PERSONAL CONTACT.

### **SECTION 9 - EMERGENCY FIRST AID INFORMATION**

**INHALATION:** REMOVE TO FRESH AIR. GET MEDICAL ATTENTION.

**INGESTION:** GET IMMEDIATE MEDICAL ATTENTION.

**SKIN:** WASH SKIN CONTACT WITH SOAP AND WATER. IF IRRITATION DEVELOPS, GET MEDICAL ATTENTION.

**EYES:** IMMEDIATELY FLUSH EYE CONTACT WITH LARGE AMOUNTS OF WATER FOR ATLEAST 15 MINUTES AND THEN GET MEDICAL ATTENTION.

### **SECTION 10 - TRANSPORTATION INFORMATION**

**DOT HAZARD CLASSIFICATION:** NOT REGULATED BY DOT

### **SECTION 11 - LABEL INFORMATION**

**DO NOT GET ON SKIN OR IN EYES.**

**RESPIRATORY PROTECTION:** AN APPROPRIATE NIOSH APPROVED RESPIRATOR FOR DUST SHOULD BE WORN.

#### **CAS#**

57455-37-5  
471-34-1  
14808-60-7

#### **COMPONENTS**

PIGMENT BLUE 29  
CALCIUM CARBONATE  
SILICA-CRYSTALLINE QUARTZ

**EMERGENCY FIRST AID PROCEDURES:**

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## MATERIAL SAFETY DATA SHEET

**INHALATION:** REMOVE TO FRESH AIR. GET MEDICAL ATTENTION.

**INGESTION:** GET IMMEDIATE MEDICAL ATTENTION.

**SKIN:** WASH SKIN CONTACT WITH SOAP AND WATER. IF IRRITATION DEVELOPS, SEEK MEDICAL ATTENTION.

**EYES:** IMMEDIATELY FLUSH EYE CONTACT WITH LARGE AMOUNTS OF WATER FOR AT LEAST 15 MINUTES AND THEN SEEK MEDICAL ATTENTION.

**GOOD INDUSTRIAL PRACTICE:** IN ACCORDANCE WITH GOOD INDUSTRIAL PRACTICE, AVOID ALL PERSONAL CONTACT. WEAR WORK CLOTHES WITH LONG SLEEVES, CLEAN EVERY SHIFT. WEAR GOGGLES OR SIDE SHIELD SAFETY GLASSES, IMPERMEABLE GLOVES AND APRON. FOR GOOD HYGIENE A SHOWER AT THE END OF EVERY SHIFT IS RECOMMENDED. WASH WELL BEFORE EATING.

**DISPOSAL:** DISPOSE OF SPILLED PRODUCT, EMPTY CONTAINERS AND UNUSED PRODUCT IN COMPLIANCE WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.

**EMPTY CONTAINERS:** RESIDUES OF THIS PRODUCT MAY REMAIN IN EMPTIED CONTAINERS. CONTAINERS SHOULD NOT BE REUSED WITHOUT PROFESSIONAL CLEANING AND RECONDITIONING. EMPTY CONTAINERS SHOULD BE RINSED BEFORE DISPOSAL. FOLLOW ALL PRECAUTIONS ON LABEL WHEN DEALING WITH EMPTY CONTAINERS.

**ATTENTION:** FOR MANUFACTURING USE ONLY. REFER TO OUR MATERIAL SAFETY DATA SHEET (MSDS) FOR COMPLETE DETAILS.

### **SECTION 12 - ENVIRONMENTAL EFFECTS INFORMATION**

NO SIGNIFICANT HARMFUL ENVIRONMENTAL EFFECTS ARE KNOWN.

### **SECTION 13 - REFERENCES**

NONE

### **SECTION 14 - FEDERAL AND STATE REGULATORY INFORMATION**

NOT CLASSIFIED AS HAZARDOUS MATERIAL PER 40 CFR 261.24 OR 261.3

WE BELIEVE ALL THE DATA AND INFORMATION GIVEN IS ACCURATE AS OF THE DAY OF PREPARATION AND IS OFFERED IN GOOD FAITH, BUT WITHOUT WARRANTY OR REPRESENTATION. SINCE CONDITIONS OF USE ARE BEYOND OUR CONTROL WE DISCLAIM ALL LIABILITY FOR RELIANCE THEREON. THIS IS OFFERED SOLELY FOR YOUR CONSIDERATION, INVESTIGATION AND VERIFICATION.

CONSUMER MATERIAL SAFETY DATA SHEET  
NAME OF PRODUCT: Loctite Power Grab All Purpose  
MSDS DATE: 09-23-2004 Rev 02/09

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Loctite Power Grab All Purpose Adhesive  
PRODUCT CODES: IDH 841982  
SUPPLIER: Henkel Consumer Adhesives.  
ADDRESS: 32150 Just Imagine Drive  
Avon, Ohio 44011  
DOMESTIC EMERGENCY PHONE: Chemtec 1-800-424-9300  
OTHER CALLS: In Canada Canutec 613-996-6666  
FAX PHONE: Regulatory Affairs 440-937-7000  
CHEMICAL FAMILY: Regulatory Affairs 440-937-7077  
PRODUCT USE: Acrylic Copolymer  
PREPARED BY: Consumer Product; Construction Adhesive  
MSDS PREPARATION DATE: Regulatory Affairs  
09-23-2004 Rev 01/09

SECTION 1 NOTES:

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT:	CAS NO.	% WT
Crystalline Silica	14808-60-7	0.1-1%

The Crystalline silica that is present is bound within the adhesive matrix and therefore will not become airborne under normal conditions of use. The remaining ingredients are non-hazardous.

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: May Cause Skin and Eye Irritation.  
This product is intended for consumer use. Keep out of reach of children.

ROUTES OF ENTRY: oral, dermal

POTENTIAL HEALTH EFFECTS

EYES: May cause irritation.

SKIN: May cause irritation especially on-prolonged contact

INGESTION: May cause irritation of gastrointestinal tract, nausea, vomiting and diarrhea.

INHALATION: Not expected to be a hazard under normal conditions of use.



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#### SECTION 4: FIRST AID MEASURES

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EYES: Rinse eyes with plenty of water. If irritation persists seek medical advice.

SKIN: Wash skin with soap and water. Seek medical attention if irritation persists.

INGESTION: Do not induce vomiting. Seek medical attention.

INHALATION: Remove to fresh air. Seek medical attention if symptoms persist.

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#### SECTION 5: FIRE-FIGHTING MEASURES

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##### NFPA HAZARD CLASSIFICATION

HEALTH: FLAMMABILITY: REACTIVITY: <1,0,0>

EXTINGUISHING MEDIA: water, CO2, Dry chemical

UNUSUAL FIRE AND EXPLOSION HAZARDS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon at high temperatures.

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#### SECTION 6: ACCIDENTAL RELEASE MEASURES

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ACCIDENTAL RELEASE MEASURES: Scrape or pick up spilled product. Surface areas should be cleaned immediately before product cures. Use plenty of water to clean surfaces. Soap or surfactant may be required to remove residual product.

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#### SECTION 7: HANDLING AND STORAGE

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HANDLING AND STORAGE: Store in a cool, dry place. Protect from freezing. Avoid prolonged skin contact. Keep away from eyes. Keep out of reach of children.

See label on product for use directions.

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#### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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ENGINEERING CONTROLS:	not required under normal use conditions. Avoid generating dusts of cured material.
VENTILATION:	not required under normal use conditions.
RESPIRATORY PROTECTION:	not required under normal use conditions.
EYE PROTECTION:	not required under normal use conditions.
SKIN PROTECTION:	not required under normal use conditions. Use impervious gloves for long term contact. Wash hands after using.

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#### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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APPEARANCE:	White paste
ODOR:	Slight odor.
PHYSICAL STATE:	Solid

pH AS SUPPLIED: 8.0-9.0  
SPECIFIC GRAVITY (H2O = 1): 1.25-1.35  
SOLUBILITY IN WATER: Emulsifiable  
EVAPORATION RATE: 1 (water=1)  
VAPOR DENSITY: 0.62 (air=1)  
FLASHPOINT: >200 Deg F

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#### SECTION 10: STABILITY AND REACTIVITY

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STABILITY: Stable  
HAZARDOUS POLYMERIZATION: Will not occur  
INCOMPATIBILITY: Strong oxidizers, Strong Acids

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#### SECTION 11: TOXICOLOGICAL INFORMATION

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TOXICOLOGICAL INFORMATION: The toxicological profile of the formulation was evaluated based upon the data of the ingredients. This product is not toxic as defined by the Federal Hazardous Substance Act.

Toxicological information for regulated components.

Crystalline silica OSHA PEL 0.1mg/kg

LD50: Not available

Crystalline silica is an IARC listed lung carcinogen. Crystalline silica in this product will not typically become airborne during normal conditions of use.

SECTION 11 NOTES Contact Regulatory Affairs if further information is required.

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#### SECTION 12: ECOLOGICAL INFORMATION

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ECOLOGICAL INFORMATION: No data available.

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#### SECTION 13: DISPOSAL CONSIDERATIONS

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WASTE DISPOSAL METHOD:

Follow federal, state and local regulations that may be applicable for disposal of product and empty container.

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#### SECTION 14: TRANSPORT INFORMATION

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U.S. DEPARTMENT OF TRANSPORTATION  
PROPER SHIPPING NAME: Not Regulated  
HAZARD CLASS: N/A

IATA  
PROPER SHIPPING NAME: Not Regulated  
HAZARD CLASS: N/A

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**SECTION 15: REGULATORY INFORMATION**

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**U.S. FEDERAL REGULATIONS**

This product is labeled in accordance to the Consumer Product Safety regulations as defined by the Federal Hazardous Substances Act.

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**SECTION 16: OTHER INFORMATION**

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**OTHER INFORMATION:** Information provided in this MSDS is intended to provide supplementary information for consumer uses of this product. This product is not intended for industrial uses. Contact Regulatory Affairs for additional information.

**PREPARATION INFORMATION:** Created by Regulatory Affairs.

**DISCLAIMER:** The information appearing herein is furnished without express or implied warranty and is based upon tests and data believed to be accurate to the best knowledge of Henkel Consumer Adhesives Inc.. It is the user's responsibility to ensure that the product is handled safely and that the instructions for use are properly communicated and followed. Henkel Consumer Adhesives Inc. assumes no legal responsibility or liability for any use not in accordance with the use described in this MSDS or in the product labeling.

**MATERIAL SAFETY DATA SHEET/COMPLIES WITH OSHA'S HAZARD COMMUNICATION STANDARD (29CFR 1910.1200)****SECTION I - PRODUCT IDENTIFICATION GOO GONE ALL PURPOSE CLEANER**

CONTAINER SIZE: 24, 32 fl oz, 1, 55 gallons  
 STOCK NO.: GG66, GG6632, GZ69, GX16, GG66BM  
 SUPPLIER'S NAME: MAGIC AMERICAN PRODUCTS, INC.  
 ADDRESS: 26901 CANNON ROAD, BEDFORD HTS, OH 44146

24 Hour Emergency Phone: CHEMTEL 1-800-255-3924  
 Information Phone: MAGIC AMERICAN PRODUCTS, INC.  
 M-F, 9-5 EST 1-800-321-6330  
 DATE PREPARED: 5/14/03      UPDATED: 1/18/07

**DOT SHIPPING INFORMATION**

DOT SHIPPING NAME: Not regulated  
 DOT HAZARD CLASS: None  
 DOT LABEL: None  
 DOT PACKING GROUP: None

**HAZARDS RATING INFORMATION**

	NFPA	NPCA(HMIS)	
Health	0	0	0-Minimal
Flammability	0	0	1-Slight
Reactivity	0	0	2-Moderate
Personal Protection	N/A	B	3-Serious
			4-Extreme
			B-Glasses, gloves

**SECTION II - INGREDIENTS**

CHEMICAL NAME	CAS NO.	% WT	313/CHEMICAL	PEL	SKIN	TWA/TLV	CARCINOGEN
Proprietary Mixture (Water-based Surfactant Solution)	None	100%	No ingredients are regulated	N/A	N/A	N/A	No

All ingredients used in this proprietary mixture are listed on the TSCA Inventory List and none is listed as carcinogenic by OSHA, IARC or NTP.

**SECTION III - PHYSICAL DATA**

Boiling Point: 200°F (93.5°C)  
 Vapor Pressure: 23.8 mm Hg (25°C)  
 Solubility in Water: Complete  
 pH: 8.0 to 8.2  
 Specific Gravity: 1.01  
 Evaporation Rate: Similar to Water  
 Appearance/Odor: Clear Orange Liquid with Citrus, Orange-like Fragrance  
 VOC Content: 1.4% VOC by CARB

**SECTION IV - FIRE AND EXPLOSION DATA**

Flash Point: None  
 Explosive Hazard: Not an explosive.  
 Extinguishing Media: Use extinguishing media suitable for other combustible materials in area.  
 Special Fire Fighting Procedures: None; material is not combustible.  
 Unusual Fire and Explosion Hazards: None.

**SECTION V - REACTIVITY DATA**

Stability: Stable  
 Hazardous Polymerization: Will not occur.  
 Hazardous Decomposition Products: None known.  
 Incompatibility: None known.

**SECTION VI - STORAGE AND HANDLING**

**KEEP OUT OF THE REACH OF CHILDREN**  
 Store in a cool, dry area away from heat or open flame.  
 Do not store at temperatures above 120°F.

**SECTION VII - HEALTH EFFECTS AND FIRST AID****PRIMARY ROUTES OF ENTRY AND EFFECTS OF OVEREXPOSURE**

EYES: Not expected to be an eye irritant.

SKIN: Not expected to be a skin irritant.

INHALATION: Not expected to be an inhalation hazard.

INGESTION: This material is not expected to be an ingestion hazard.

LONG TERM EFFECTS: No long term effects expected.

**SECTION VIII - SPECIAL PROTECTION DATA**

RESPIRATORY PROTECTION: Not needed.

VENTILATION: Not needed.

PROTECTIVE GLOVES: Not needed.

EYE PROTECTION: Recommended if splashing during transfer is possible.

**FIRST AID PROCEDURES**

EYES: Remove any contact lenses and flush both eyes with cool running water for at least 15 minutes. Seek medical attention if irritation persists.

SKIN: Wash with soap and water. With extended periods of use, a skin emollient should be applied after use to prevent drying.

INHALATION: Remove person to fresh air.

INGESTION: Rinse mouth and then drink a large glass of water and seek immediate medical attention.

**SECTION IX - SPILL OR LEAK PRECAUTIONS**

STEPS TO BE TAKEN IN CASE OF SPILLAGE OR LEAKAGE:  
 Ventilate area. Spilled material can be picked up with sorbent material. Use caution where surfaces may become slippery from spilled material.

WASTE DISPOSAL METHOD: Sweep up and place in empty container and close. Dispose of according to local, state and federal regulations.

WASTE DISPOSAL CAUTION: Hazardous substances cleaned with this product may create hazardous waste that must be properly characterized and disposed of in accordance with RCRA, state and local regulations.

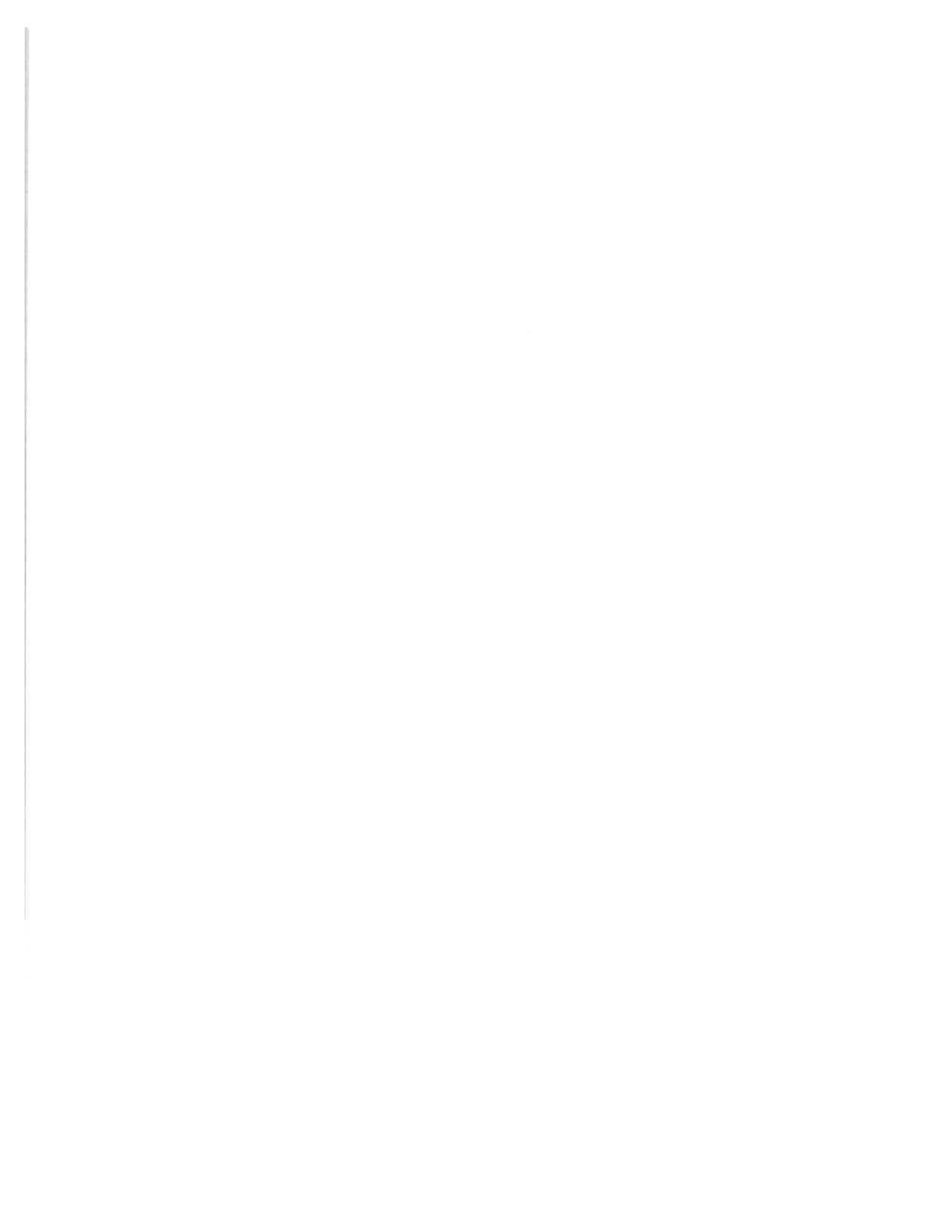
N/A = NOT APPLICABLE

N/E = NOT ESTABLISHED

N/D = NOT DETERMINED

< = LESS THAN      > = MORE THAN




NOTICE The information contained on this Material Safety Data Sheet is for Industrial and Institutional use only and considered accurate as of the date of publication. It is not necessarily all inclusive or fully adequate in every circumstance. The suggestions should not be confused with or followed in violation of applicable laws, regulations, rules or insurance requirements. No warranty, express or implied, of merchantability, fitness, accuracy of data, or the results to be obtained from the use thereof is made. The vendor assumes no responsibility for injury or damages resulting from the inappropriate use of this product. Magic American assumes no responsibility for any product information placed on the Internet by individuals who are not affiliated with Magic American.



# MATERIAL SAFETY DATA SHEET



## SPITFIRE SC Power Cleaner

HMIS		NFPA		Personal protective equipment	
Health	3	Health	3		
Fire Hazard	0	Flammability	0		
Reactivity	0	Instability	0		

Version Number: 1

Preparation date: 2009-08-31

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** SPITFIRE SC Power Cleaner

**MSDS #:** MS0300502

**Product Code:** 5273489, 5273497, 5273518, 5273526

**Recommended use:** Heavy Duty Cleaner and Degreaser. This product is intended to be diluted prior to use.

**Manufacturer, importer, supplier:**

US Headquarters  
Diversey, Inc.  
8310 16th St.  
Sturtevant, Wisconsin 53177-1964  
Phone: 1-888-352-2249  
MSDS Internet Address:  
www.johnsondiversey.com

Canadian Headquarters  
Diversey, Inc. - Canada, Inc.  
2401 Bristol Circle  
Oakville, Ontario L6H 6P1  
Phone: 1-800-868-3131

**Emergency telephone number:** 1-800-851-7145 (U.S.); 1-651-917-6133 (Int'l)

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

**DANGER. CORROSIVE. CAUSES SKIN AND EYE BURNS. HARMFUL OR FATAL IF SWALLOWED.**

**Principle routes of exposure:**

**Eye contact:**

**Skin contact:**

**Inhalation:**

**Ingestion:**

Eye contact Skin contact Inhalation

Corrosive. Causes permanent eye damage, including blindness.

Corrosive. Causes permanent damage.

May cause irritation and corrosive effects to nose, throat and respiratory tract.

May be irritating to mouth, throat and stomach.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient(s)	CAS #	Weight %	LD50 Oral - Rat (mg/kg)	LD50 Dermal - Rabbit	LC50 Inhalation - Rat
Benzyl alcohol	100-51-6	5 - 10%	1230	2000 mg/kg	8.8 mg/L (4 h)
2-butoxyethanol	111-76-2	10 - 20%	470	220 mg/kg	2.21 mg/L (4 h); 450 ppm (4 h)
Monoethanolamine	141-43-5	5 - 10%	1720	1 mL/kg	Not available
Lauryl dimethyl amine oxide	1643-20-5	1 - 5%	2700	Not available	Not available
Alcohol ethoxylates	68439-46-3	10 - 20%	1400	>2 g/kg	Not available

### 4. FIRST AID MEASURES

**Eye contact:**

Immediately flush eyes with running water for 15-20 minutes, keeping eyelids open. Get medical attention immediately.

**Skin contact:**

Immediately flush with plenty of water for 15-20 minutes. Get medical attention immediately if breathing is affected, remove to fresh air. Get medical attention immediately.

**Inhalation:**

If swallowed, give a cupful of water or milk. THEN IMMEDIATELY CONTACT A PHYSICIAN OR POISON CENTER. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

**Ingestion:**

**Aggravated Medical Conditions:** Individuals with chronic respiratory disorders such as asthma, chronic bronchitis, emphysema, etc., may be more susceptible to irritating effects

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** The product is not flammable. Extinguish fire using agent suitable for surrounding fire  
**Specific hazards:** Not applicable.  
**Unusual hazards:** Corrosive material (See sections 8 and 10).  
**Specific methods:** No special methods required.

**Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.  
**Extinguishing media which must not be used for safety reasons:** No information available.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment.  
**Environmental precautions and clean-up methods:** Clean-up methods - large spillage. Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Use a water rinse for final clean-up.

### 7. HANDLING AND STORAGE

**Handling:**  
 Avoid contact with skin, eyes and clothing. Do not taste or swallow. Avoid breathing vapors or mists. Use only with adequate ventilation. Remove and wash contaminated clothing and footwear before re-use. Wash thoroughly after handling. Product residue may remain on/in empty containers. All precautions for handling the product must be used in handling the empty container and residue. . Mix only with water. Do not mix with any other product or chemical. May react to release hazardous gases. FOR COMMERCIAL AND INDUSTRIAL USE ONLY.  
**Storage:**  
 Protect from freezing. Keep tightly closed in a dry, cool and well-ventilated place. KEEP OUT OF REACH OF CHILDREN.

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures to reduce exposure:**  
 Good general ventilation should be sufficient to control airborne levels. Respiratory protection is not required if good ventilation is maintained

**Personal Protective Equipment**

**Eye protection:** Chemical-splash goggles.  
**Hand protection:** Chemical-resistant gloves  
**Skin and body protection:** Protective footwear. If major exposure is possible, wear suitable protective clothing and footwear.  
**Respiratory protection:** In case of insufficient ventilation wear suitable respiratory equipment. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.  
**Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice.

Ingredient(s)	CAS #	ACGIH	OSHA	Mexico
2-butoxyethanol	111-76-2	20 ppm (TWA)	Skin 240 mg/m <sup>3</sup> (TWA) 50 ppm (TWA)	75 ppm (STEL) 360 mg/m <sup>3</sup> (STEL) 26 ppm (TWA) 120 mg/m <sup>3</sup> (TWA)
Monoethanolamine	141-43-5	6 ppm (STEL) 3 ppm (TWA)	3 ppm (TWA) 6 mg/m <sup>3</sup> (TWA)	6 ppm (STEL) 15 mg/m <sup>3</sup> (STEL) 8 mg/m <sup>3</sup> (TWA) 3 ppm (TWA)

### 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Liquid  
**Appearance:** Aqueous solution  
**Vapor density:** No information available  
**Color:** Clear Red  
**Boiling point/range:** Not determined  
**Autoignition temperature:** No information available  
**Density:** 8.56 lbs/gal 1.026 Kg/L  
**Partition coefficient (n-octanol/water):** No information available  
**Solubility in other solvents:** No information available  
**Bulk density:** No information available  
**Evaporation Rate:** No information available  
**Specific gravity:** 1.026  
**Odor:** Pine Fresh  
**Melting point/range:** Not determined  
**Decomposition temperature:** Not determined  
**Flash point:** > 200 °F > 93.4 °C  
**Solubility:** Completely Soluble  
**Viscosity:** No information available



Elemental Phosphorus: 0.00 % by wt.  
pH: 12.5  
Dilution pH: 11.45 @ 1:12

VOC: 19.7 % \*

Explosion limits: - upper: Not determined - lower: Not determined

\* - Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94508

## 10. STABILITY AND REACTIVITY

**Stability:** The product is stable  
**Polymerization:** Hazardous polymerization does not occur.  
**Hazardous decomposition products:** None reasonably foreseeable.  
**Materials to avoid:** Acids. Strong oxidising agents.  
**Conditions to avoid:** Do not mix with any other product or chemical.

## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity:** Corrosive. Oral LD50 estimated to be between 2000 - 5000 mg/kg. Dermal LD50 estimated to be > 2000 mg/kg.  
**Component Information:** See Section 3.  
**Chronic toxicity:** None known  
**Specific effects**  
**Carcinogenic effects:** None known  
**Mutagenic effects:** None known  
**Reproductive toxicity:** None known  
**Target organ effects:** None known

## 12. ECOLOGICAL INFORMATION

**Environmental Information:** No data available.

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:**  
Undiluted product is regulated under environmental and transportation laws as a corrosive waste. Dispose of according to all federal, state and local applicable regulations.  
RCRA Hazard Class: D002

## 14. TRANSPORT INFORMATION

DOT/TDG: Please refer to the Bill of Lading/receiving documents for up to date shipping information.

## 15. REGULATORY INFORMATION

### International Inventories

All components of this product are listed on the following inventories: U.S.A (TSCA), Canada (DSL/NDSL).

### U.S. Regulations

**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65.

### RIGHT TO KNOW (RTK)

Ingredient(s)	CAS #	MARTK:	NJRTK:	PARTK:	RIRTK:
Benzyl alcohol	100-51-6	X	X	X	-
2-butoxyethanol	111-76-2	X	X	X	X
Sodium xylene sulfonate	1300-72-7	-	-	-	-
Monoethanolamine	141-43-5	X	X	X	X
Alcohol ethoxylates	68439-46-3	-	-	-	-
Water	7732-18-5	-	-	-	-



**CERCLA/ SARA**

Ingredient(s)	CAS #	Weight %	CERCLA/SARA RQ (lbs)	Section 302 TPQ (lbs)	Section 313
2-butoxyethanol	111-76-2	10 - 20%			X

Ingredient(s)	CAA HAP	CAA ODS	CWA Priority Pollutants
2-butoxyethanol	X		

**SARA 311/312 Hazard Categories**

**Immediate:** x  
**Delayed:** -  
**Fire:** -  
**Reactivity:** -  
**Sudden Release of Pressure:** -

**Canada**

WHMIS hazard class: E Corrosive material

<b>16. OTHER INFORMATION</b>
------------------------------

**Reason for revision:** Not applicable  
**Prepared by:** NAPRAC  
**Additional advice:** None.

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**REACTIVITY DATA**

<b>Stability:</b>	<b>Stable</b>
<b>Hazardous Decomposition Products:</b>	<b>None Anticipated</b>
<b>Incompatible (Materials to Avoid):</b>	<b>Acids</b>
<b>Polymerization:</b>	<b>Will Not Occur</b>

**HEALTH HAZARD DATA**

<b>Health Effects/Signs and Symptoms:</b>	<b>Not Applicable</b>
<b>Usual Route(s) of Entry:</b>	<b>Sharp Metal Fasteners May Cut Skin</b>
<b>Medical Conditions Possible Aggravated:</b>	<b>None Known</b>
<b>Carcinogen Information:</b>	<b>None Known</b>

<b>Eye Contact:</b>	<b>Not anticipated to pose a significant eye hazard.</b>
<b>Skin Contact:</b>	<b>Not anticipated to pose a significant skin hazard.</b>
<b>Ingestion:</b>	<b>Not anticipated to pose a significant ingestion hazard.</b>
<b>Inhalation:</b>	<b>Not considered an inhalation hazard.</b>

**OCCUPATIONAL EXPOSURE CONTROL MEASURES**

<b>Eye Protection:</b>	<b>Safety Glasses Recommended</b>
<b>Skin Protection:</b>	<b>Gloves Recommended</b>
<b>Ingestion:</b>	<b>Never place metal fasteners into mouth.</b>

**SPILL, LEAK AND DISPOSAL INFORMATION**

Procedures to follow if material is released or spilled: N/A

Waste Disposal Method(s): Any excess product can be recycled for further use or disposed by methods which are in accordance with local, state and federal regulations.

**ADDITIONAL OR MISCELLANEOUS INFORMATION**

Coatings are applied to the surface of metal products. These are usually classified as protective coatings or lubricants. The typical coatings are as follows:

Zinc Plating / Chromate  
Dyeing (Color Identification)

The possible presence of these coatings on metal products should be recognized when evaluating potential employee health hazards and exposures during normal use.

Tapecon

**MATERIAL SAFETY DATA SHEET**

Page 1 of 2

These products do not meet the criteria of hazardous chemicals as defined by the Federal Occupational Safety and Health Communication Standard 29 CFR 1910.1200 (c). This form is being provided solely as general information and should not be construed as a determination that the product(s) are hazardous chemical(s).

**GENERAL INFORMATION**

**Manufacturer:** Buildex Division  
ILLINOIS TOOL WORKS INC.  
1349 W. Bryn Mawr  
Itasca, Illinois 60143  
**Date:** January 1993

**Telephone Number:** (708) 595-3500

**PRODUCT IDENTIFICATION**

**Product Name:** Metal Fasteners (bolts, screws, nuts, washers, stampings, etc.)  
**Formula:** Climaseal, Climacoat, Spex

**TYPICAL CHEMICAL COMPOSITION**

Various metals, ferrous and nonferrous platings/coatings (Optional):  
See "Additional or Miscellaneous Information".

**PHYSICAL DATA**

<b>Physical State:</b>	Solid	<b>Specific Gravity:</b>	7.6-7.8
<b>Appearance:</b>	Various Shapes	<b>Vapor Pressure:</b>	N/A
<b>Boiling Point:</b>	N/A	<b>Vapor Density:</b>	N/A
<b>Melting Point:</b>	Greater than 1400°F	<b>Evaporation Rate:</b>	N/A
<b>PH:</b>	N/A	<b>% Volatile by Volume:</b>	N/A
<b>Odor:</b>	None	<b>Solubility in Water:</b>	N/A

**FIRE AND EXPLOSION HAZARD DATA**

Not Applicable

**REACTIVITY DATA**

<b>Stability:</b>	Stable
<b>Incompatibilities (Material to Avoid):</b>	Acids
<b>Polymerization:</b>	Will Not Occur
<b>Hazardous Decomposition Products:</b>	None Anticipated

**MATERIAL SAFETY DATA SHEET**

Page 2 of 2

**REACTIVITY DATA**

**Stability:** Stable  
**Hazardous Decomposition Products:** CO<sub>2</sub> and/or CO  
**Incompatibilities (Materials to Avoid):** Strong Mineral Acids, Alkali or Oxidizers  
**Polymerization:** Will Not Occur

**HEALTH HAZARD DATA**

**Health Effects/Signs & Symptoms:** Not Applicable  
**Usual Route(s) of Entry:** Sharp Metal Fastener May Cut Skin  
**Medical Conditions Possibly Aggravated:** None Known  
**Carcinogen Information:** None Known

**Eye Contact:** Not anticipated to pose a significant eye hazard  
**Skin Contact:** Not anticipated to pose a significant skin hazard  
**Ingestion:** Not anticipated to pose a significant ingestion hazard  
**Inhalation:** Not considered an inhalation hazard

**OCCUPATIONAL EXPOSURE CONTROL MEASURES**

**Eye Protection:** Safety glasses recommended  
**Skin Protection:** Gloves recommended  
**Ingestion:** Never place metal fasteners in mouth

**SPILL, LEAK AND DISPOSAL INFORMATION**

**Procedures to follow if material is released or spilled:** N/A

**Waste Disposal Method(s):** Any excess product can be recycled for further use or disposed of by methods which are in accordance with local, state and federal regulations.

**ADDITIONAL OR MISCELLANEOUS INFORMATION**

After working with coated materials, wash hands and face before eating, drinking or smoking.

Characteristics not covered on this M.S.D.S. are not applicable to this material at this time.

# MATERIAL SAFETY DATA SHEET

## I. PRODUCT IDENTIFICATION

**Manufactured by:** Millenia Productions, P.O. Box 48025, Wichita, KS 67214

**Trade Name:** Acetone

**Information:** (316) 425-2500

**Date Prepared:** 03/26/96

## II. COMPOSITION/INFORMATION ON INGREDIENTS

Substances listed below are reportable hazardous ingredients as defined by the OSHA Hazard Communication Standard. Exposure limits, when available, are also listed.

Additional compositional data are provided in Section 15, REGULATORY INFORMATION, subject to supplier notification requirements.

CAS NUMBER	OSHA	UNITS	ACGIH	UNITS
<b>CHEMICAL NAME</b>				
67-64-1				
Acetone	750.0	ppm PEL	750.0	ppm TLV
	1000.0	ppm STEL	1000.0	ppm STEL

## III. HAZARDOUS INGREDIENTS:

**EMERGENCY OVERVIEW:** Colorless liquid with mild odor. Extremely flammable liquid and vapor. Eye, skin, and mucous membrane irritant. Harmful if swallowed or inhaled.

### POTENTIAL HEALTH EFFECTS

**EYE:** Severe eye irritant. Causes chemical burns.

**SKIN:** May cause skin irritation or rash.

**INGESTION:** Ingestion results in mucous membrane irritation. Poisoning may result in hyperglycemia and liver and kidney damage.

**INHALATION:** Vapor concentrations > 1000 ppm are irritating to the respiratory tract, may cause headaches and dizziness, are anesthetic, may cause liver disorder and may have other central nervous system effects.

### CHRONIC/ CARCINOGENICITY:

**NTP:** Not Tested

**OSHA:** Not Regulated

**IARC:** Not Listed

**CHRONIC/ OTHER:** Continuous inhalation of acetone vapors can lead to dizziness and respiratory tract irritation. Accumulates in the body after repeated high doses.

**MEDICAL RESTRICTIONS:** Certain skin sensitive individuals and individuals with respiratory impairments may be affected by exposure to this product.

## IV. FIRST AID MEASURES

### EYES:

Flush eyes well with copious quantities of water or normal saline for at least 20-30 minutes. If irritation persists, seek medical attention.

### SKIN:

Immediately flush with water for at least 15 minutes. If irritation develops, seek medical attention. Remove contaminated clothing immediately.

### INHALATION:

If inhaled, move victim to fresh air and seek medical attention. If not breathing, start CPR and immediately seek medical attention.

**INGESTION:**

Immediately contact poison control center, hospital, or physician. If unconscious, insure that airway is not obstructed. Begin CPR if not breathing. If conscious, give victim one glass of water. Do not induce vomiting unless instructed to do so. Do not give anything by mouth to a person who is unconscious or is having convulsions.

## V. FIRE FIGHTING MEASURES

**EXTINGUISHING MEDIA:**

Dry Chemical, foam, water spray, carbon dioxide.

**FIRE FIGHTING PROCEDURES:**

This product presents an extreme fire hazard. Liquid very quickly evaporates and forms vapor which can catch fire and burn with explosive violence. Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Use extinguishing water stream carefully until well after fire has been extinguished. Isolate for 1/2 mile in all directions of fire involved storage tank, rail car, or tank truck.

**HAZARDOUS COMBUSTION PRODUCTS:** Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide and hydrocarbon fragments.

**FLASH POINT:** -20 C (-4 F) - (closed cup)

**LOWER FLAMMABLE LIMIT:** 2.5%

**UPPER FLAMMABLE LIMIT:** 12.8%

**AUTOIGNITION:** 465 C (869 F)

**CONDITIONS OR FLAMMABILITY:** The liquid and vapor are easily ignited by spark or continuous flame and are extremely flammable. Vapors are heavier than air and may travel considerable distances to an ignition source.

**EXPLOSION DATA:**

**IMPACT SENSITIVITY:** Not sensitive to mechanical impact.

**STATIC DISCHARGE:** Vapors from acetone are heavier than air and are sensitive to static discharge.

## VI. ACCIDENTAL RELEASE MEASURES

**GENERAL:**

Notify safety personnel. Remove all heat and ignition sources. Provide maximum ventilation. Evacuate all personnel from the area except those involved in cleanup. Contain spill. Remove leaking container to safe place if feasible. Prevent runoff to waterways. Absorb small spills with absorbent material and transfer to closed, impervious containers for disposal. For large spills, dike far ahead of spill for later disposal. Cleanup personnel should wear respiratory equipment and protective clothing to prevent inhalation of vapor and contact with skin and eyes.

## VII. HANDLING AND STORAGE

**HANDLING:**

Follow recommendations on label and in technical literature. Prevent any contact with skin and eyes. Recommend presence of safety showers and eye wash fountains. Minimize prolonged or repeated breathing of vapors mists or fumes. Provide adequate ventilation. Employ bonding, grounding, venting, and explosion relief provisions in accordance with accepted engineering practices.

**STORAGE:**

Store closed, labeled containers in a cool, dry, well-ventilated area away from sources of heat and ignition. Protect containers from physical damage. Recommend safety showers and eye washes in storage area. Maintain good housekeeping. Employ bonding, grounding, venting and explosion relief provisions in accord with accepted engineering practices.

## VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

**ENGINEERING CONTROLS:** Ventilation requirements must be locally determined to limit exposure to processing fumes in the workplace. Design techniques and guidelines may be found in publications such as:

Industrial Ventilation; available from the American Conference of Government Industrial Hygienists, Committee on Industrial Ventilation, P.O. Box 16153, Lansing, MI 48901.

**EYE/FACE:** Wear chemical goggles or goggles and full face shield  
**SKIN:** When handling avoid contact with skin. Use appropriate protective clothing, including chemical resistant gloves. For prolonged or repeated contact or for spills, use impervious clothing such as full wet suit and rubber boots.  
**RESPIRATORY:** When exposures are not adequately controlled, use respirator approved for protection from organic vapors. For spills, use approved pressure demand breathing apparatus.

## IX. PHYSICAL DATA

<b>PHYSICAL STATE:</b>	Liquid
<b>ODOR AND APPEARANCE:</b>	Liquid with Mild odor
<b>BOILING POINT:</b>	56 C (133 F)
<b>MELTING POINT:</b>	-95 C (-139 F)
<b>VAPOR PRESSURE (mmHg):</b>	184 (20 C)
<b>VAPOR DENSITY (air=1):</b>	2
<b>SPECIFIC GRAVITY (water=1):</b>	0.79
<b>WATER SOLUBILITY:</b>	Soluble
<b>% VOLATILES:</b>	100
<b>pH:</b>	Not Applicable
<b>ODOR THRESHOLD:</b>	20.0 ppm
<b>EVAPORATION RATE:</b>	Not Established
<b>COEFFICIENT WATER/OIL DISTR:</b>	Not Established

## X. STABILITY & REACTIVITY

**STABILITY:**

Stable under recommended conditions of storage and handling.

**CONDITIONS TO AVOID:**

Avoid exposure to high temperatures, flames, sparks, hot surfaces or other ignition sources. Avoid contact with strong oxidizing agents and halogens.

**REACTIVITY:**

Not reactive under recommended conditions of handling and storage.

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition can produce carbon monoxide and carbon dioxide.

## XI. TOXICOLOGICAL INFORMATION

**PRODUCT:**

**EYE:** Severe eye irritant. Causes chemical burns.

**SKIN:** Dermal LD50 (rabbit) 20 g/kg

**ACUTE ORAL:** Oral LD50 (rat) 5800 mg/kg, oral LD50 (mouse) 3000 mg/kg

**ACUTE INHALATION:** Inhalation LC50 (rat) 16,000 ppm/4 hours.

**CHRONIC:** Poisoning may result in hyperglycemia, and liver and kidney damage. Prolonged exposure to vapors may cause corneal opacity or result in acetone in the blood. Prolonged or repeated skin contact may defat the skin and produce dermatitis. Over exposure will result in CNS depression.

Acetone



## XII. ECOLOGICAL INFORMATION

### GENERAL:

A concentration of 14,250 ppm in tap water, over a 24 hour period was found to be lethal to sunfish. The TLM (median tolerance limit) over 48 hours for mosquito fish is 13,000 ppm in turbid water.

## XIII. DISPOSAL INFORMATION

### RCRA HAZARDOUS WASTE:

Regulated as RCRA hazardous waste U002 when discarded.

### WASTE DISPOSAL:

Recycling is encouraged. Place in tightly sealed, labeled containers for disposal by licensed contractor or burn in an approved incinerator in accordance with federal, state, and local requirements.

## XIV. TRANSPORT INFORMATION

**PROPER SHIPPING NAME:** Acetone  
**IDENTIFICATION NUMBER:** P.I.N. UN1090  
**TDGA:** Regulated. TDG classification: 3.1 Flammable liquid.

## XV. REGULATORY INFORMATION

Listed below are chemical substances subject to supplier notification requirements. The percentages, when present, represent average values.

CAS NUMBER	EPCRA	WHMIS	NPRI	CA-65	FL	RI
CHEMICAL NAME	313 %	%	%	%		
67-64-1						
Acetone		99.9	99.9		x	x

### TSCA STATUS:

Substance Inventory requirements of the US EPA Toxic Substances Control Act (TSCA)

### WHMIS CLASSIFICATIONS:

B2- Flammable Liquids

## XVI. OTHER INFORMATION

The above information and recommendations are believed accurate and reliable. Because it is not possible to anticipate all conditions of use additional safety precautions may be required. GENERAL ELECTRIC COMPANY makes no warranty, either express or implied, including merchantability and fitness.

**USER RESPONSIBILITY:** Each user should read and understand this information and incorporate it into individual site safety programs in accordance with applicable hazard communication standards and regulations.

### ABBREVIATIONS:

**ACGIH:** American Conference of Governmental Industrial Hygienists  
**CA-65:** California Proposition 65 (Safe Drinking Water & Toxic Enforcement Act)  
**CAS#:** Chemical Abstracts Service Number  
**EPCRA 313:** Emergency Planning and Community Right-To-Know Act, Section 313  
**FL:** Florida Right-To-Know  
**OSHA:** The Occupational Safety and Health Administration  
**NPRI:** The Canadian National Pollutant Release Inventory  
**RCRA:** Resource Conservation and Recovery Act  
**RI:** Rhode Island Right-To-Know Law, Hazardous Substance List.  
**WHMIS:** Canadian Workplace Hazardous Materials Information System

Millenia Productions believes that the information contained in this M.S.D.S. is correct as of this date. However, because the material may be used under conditions which Millenia Productions has no control of in ways we can not anticipate, we give no warranty expressed or implied, as to the accuracy of the information and assume no responsibility for any damage to person, property of business arising from such use. Moreover, it is the responsibility of the purchaser or user of this material to ensure that it is properly and safely used.

Acetone

# MATERIAL SAFETY DATA SHEET

## Bondo® Body Filler

Date of Preparation: June 18, 2001

### Section 1 - Product Information

**Manufacturer:** Bondo Corporation  
3700 Atlanta Industrial Parkway NW  
Atlanta, GA 30331

**Emergency Telephone:** For US transportation emergencies call - Chemtrec: 800-424-9300  
For Canadian transportation emergencies call - Canutec: 613-996-6666

**Information:** 770-441-8628 (USA 7:30am - 4:30pm Eastern Time) **Product Use:** Body Filler  
**Item Number:** 261C, 261E, 262C, 262E, 262K, 262T, 262X, 263E, 264E, 265, 265C, 265E, 265H, 265T, 265X, 266E, 267C

### Emergency Overview

**Signs of Overexposure:** Nausea, cough, dizziness, weakness, headache, chest pain, lack of coordination, shortness of breath, dermatitis, redness and/or pain in eyes.

**Emergency First Aid:** Move to fresh air, remove contaminated clothing, wash affected skin with soap and water, do not use solvents or thinners; if product gets into eyes, remove contact lenses, flush with water for 15 minutes.

**Handling:** If handling in a confined space wear an organic vapor cartridge respirator (NIOSH / OSHA). For working, wear solvent resistant gloves and safety eye protection designed to guard against liquid splashes. Close all containers tightly after use. Do not eat, drink or smoke in work areas.

**Material Physical Appearance:** Putty

**Other Precautions:** Vapors are heavier than air and may travel along floors. Material has an offensive odor. Prolonged exposure may reduce the user's sensitivity to the odor, thus reducing the effectiveness of odor as a warning against exposure.

**Fire Fighting:** Flammable liquid, refer to Guide 127 of the North American Emergency Guide Book. Forms explosive mixture with air. Vapors are heavier than air and may travel to a source of ignition and flash back.

**NFPA Flammability:** 1C

Bondo Corporation has no oversight with respect to the guidance practices or policies or manufacturing processes of other companies handling or using this material. The information given in this MSDS is only related to the product as shipped in its original condition as described in Section 2, "Hazardous Ingredients" and Section 9 "Physical and Chemical Properties".

### Section 2 - Hazardous Ingredients

Hazardous Ingredient	Percent weight	CAS No.	Vapor Press.	ACGIH TLV	OSHA PEL	LD <sub>50</sub> Oral	LD <sub>50</sub> Derm	LC <sub>50</sub> Inhal	LEL
Styrene	10-20%	100-42-5	4.5	20ppm	100ppm	2650	n. av.	12000	1.1

LD<sub>50</sub> Oral - rat mg/m<sup>3</sup>, LD<sub>50</sub> Dermal - rabbit mg/m<sup>3</sup>, LC<sub>50</sub> Inhalation - rat mg/m<sup>3</sup> unless otherwise specified.

### Section 3 - Hazards Identification

**Primary Routes of Entry:** Inhalation, skin contact, ingestion, eyes.

**Exposure Effects Acute and Chronic:**

**Inhalation:** Acute: Nasal and respiratory irritation, nausea, cough, shortness of breath, dehydration, allergic respiratory reaction, tiredness, dizziness, weakness, headache, anesthesia, drowsiness, fatigue, chest pain, vomiting, central nervous system effects, narcosis. Liquid can be fatal if aspirated into the lungs.

**Skin contact:** Acute: Extraction of natural oils with resulting dry skin, irritation, allergic skin reactions, redness and dermatitis. May be absorbed through the skin.

**Eye contact:** Acute: Irritation, redness, pain, tearing, blurred vision, sensation of seeing halos around lights and reversible damage.

**Ingestion:** Acute: Gastrointestinal irritation, nausea, vomiting, diarrhea, weakness, headache, dizziness, drowsiness, fatigue, lack of coordination, central nervous system effects, depression.

**Chronic:** Repeated overexposure to this product may cause: central nervous system damage, hearing damage, kidney damage, liver abnormalities, lung damage, cardiac abnormalities, reproductive organ damage, blood effects, eye damage.

**Other Health Effects:**

Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage.

### Section 4 - First Aid Measures

**Emergency and First Aid Procedures:** In all cases if symptoms persist, seek medical attention.

**Inhalation** - move to fresh air, give artificial respiration if necessary.

**Skin contact** - remove contaminated clothing, wash with soap and water or recognized skin cleaner. Do not use solvents or thinners.

**Eye contact** - contact lenses must be removed, flush with water for at least 15 minutes, consult a physician immediately.

**Ingestion** - drink one or two glasses of water to dilute. Do not induce vomiting. Consult a physician or poison control center immediately. Treat symptomatically

**Medical Conditions Prone to Aggravation:** pulmonary conditions, skin disorders, liver conditions, kidney conditions, neurological disorders, pregnancy.

### Section 5 – Fire Fighting Measures

**Flash Point (SFCC):** 95F

**Lower Explosive Limit:** 1.1

**NFPA Flammability:** 1 C

**Extinguishing Media:** foam, carbon dioxide, dry chemical or water fog or spray. Water jet or stream is unsuitable.

**Unusual Fire and Explosion Hazards:** Invisible vapors may travel to source of ignition and flash back. Since vapors are heavier than air, dangerous concentrations may not be apparent to casual observation. Keep containers tightly closed, isolate from heat, electrical equipment, sparks and open flame. Closed containers may explode when exposed to extreme heat. Fire will produce dense black smoke containing hazardous products of combustion. Symptoms may not be immediately apparent. Obtain medical attention. This product may polymerize when its container is exposed to heat causing an increase in pressure resulting in a violent rupture.

**Special Fire Fighting Procedures:** Water should be used to cool containers exposed to fire. Fire fighting personnel should wear self-contained breathing apparatus.

### Section 6 – Accidental Release

**Steps To Be Taken In Case Material Is Released Or Spilled:** Remove all sources of ignition. Avoid breathing vapors, ventilate confined area. Dike to reduce extent of spill. Remove with inert absorbent using non-sparking tools. If necessary report to applicable government agency.

### Section 7 – Handling and Storage

**Precautions To Be Taken In Handling And Storing:** Minimize contact between the worker and this material. No smoking. Store containers out of sun and away from heat, sparks, and open flames. Close all containers after each use. Consult NFPA and local codes for additional storage requirements.

**Hygienic Practices:** Do not eat, drink or smoke in work areas. Wash hands before eating, smoking, or using the washroom. Launder clothing before reuse.

**Other Precautions:** Vapors are heavier than air and may travel along floors. Do not take internally. Observe label precautions. Keep closures tight and container upright to prevent leakage. The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks as required by regulations. Material has an offensive odor. Prolonged exposure may reduce the user's sensitivity to the odor, thus reducing the effectiveness of odor as a warning against exposure.

### Section 8 – Exposure Controls

**Primary Routes of Entry:** Inhalation, skin contact, ingestion, eyes.

**Personal Protective Equipment:** In cases where no monitoring for airborne contaminants has been carried out, assume maximum exposure and use antistatic paint suit, goggles, gloves, and air supplied respiratory equipment. All personal protective equipment should meet NIOSH or OSHA requirements.

**Respiratory Protection:** When personnel, whether spraying or not, are inside a spray booth, ventilation is unlikely to be sufficient to control particulates and chemical vapor in all cases. In such cases air supplied respiratory equipment is recommended until particulate and vapor concentration has fallen below exposure limits. If monitoring demonstrates levels below TLV or PEL wear a NIOSH/MSHA approved respirator device. See safety equipment supplier for evaluation and recommendation.

**Ventilation:** Provide sufficient ventilation to keep vapor concentration below the given TLV and/or PEL.

For baking finishes, exhaust vapors emitted during heating. Remove decomposition products formed during welding or flame cutting of surfaces coated with this product.

**Protective Gloves:** Required for prolonged or repeated contact. Use solvent resistant gloves. Barrier creams are not substitutes for full physical protection. Refer to safety equipment supplier for effective glove recommendations.

**Eye Protection:** Use safety goggles or face shield designed to protect against splash of liquids when spraying or when working with open liquids such as during mixing or pouring.

### Section 9 – Physical and Chemical Properties

**Evaporation Rate:** Slower than ether

**Vapor Density:** Heavier than air

**Vapor Pressure:** 5.2mm Hg @20C

**Weight per Gallon (Specific Grav.):** 8.0 (0.96)

3

**Odor and Appearance:** pungent organic odor, buff liquid  
**Freezing point, Coefficient of water/oil distribution, pH:** Not applicable or not available

#### **Section 10 – Stability and Reactivity**

**Stability:** Stable

**Incompatibility (materials to avoid):** Oxidizers, alkali metals, nitric acid, sodium hydroxide.

**Hazardous Polymerization:** May occur at temperatures over 150F (65C).

**Conditions to Avoid:** Heat, open flame, sparks.

**Hazardous Combustion Products:** Oxides of carbon and nitrogen, various hydrocarbons, fumes.

#### **Section 11 - Toxicological Information**

**Carcinogenicity (risk of cancer):** Styrene is listed by IARC as possibly carcinogenic to humans (Group 2B). The IARC 2B classification is not based on significant new evidence that styrene might be a carcinogen, but on a revised IARC classification scheme and new data on styrene oxide.

**Sensitization (effects of repeated exposure):** These products may cause inhalation sensitization to certain individuals.

**Teratogenicity (risk of malformation in an unborn fetus):** None Known

**Reproductive Toxicity (risk of sterility):** None Known

**Mutagenicity (risk of heritable genetic effects):** Styrene has given mixed results in a number of tests.

**Threshold Limit Value:** None established for this product. For further information, see Section 9 - Hazardous Ingredients

#### **Section 12 - Ecological Information**

**General Information:** Avoid runoff into ground, storms or sewer which lead into waterways. Water runoff can cause environmental damage.

**Environmental Impact Data (percentage by weight):**

Ozone Depleters: none    Heavy Metals: None

There are extensive ecological data available on the various components of these products. An adequate representation of all these data is beyond the scope of this document. Please contact the information phone number found in Section 1.

#### **Section 13 – Disposal Information**

**Waste Disposal Method:** Dispose of in accordance with federal, state or provincial and local pollution requirements. Clean preferably with a detergent, avoid the use of solvents. This information applies only to the material as manufactured; processing, use or contamination may make this information inappropriate, inaccurate or incomplete. The generator of the waste has the responsibility for proper waste classification, transportation and disposal.

**Other Information:** When discarded in its supplied form, these products meet the hazard criteria of "ignitability" and must be considered as hazardous waste D001.

#### **Section 14 – Transportation Information**

**US Ground Shipments:**

Proper Shipping Name: Consumer Commodity

Hazard Label: ORM-D

#### **Section 15 - Regulatory Information**

**OSHA:** These products are considered hazardous under the Federal OSHA Hazard Communication Standard.

**WHMIS:** B2;D1A;D2A

**SARA Title III:**

*Section 302 Extremely Hazardous Substances:* None

*Section 311 / 312 Hazard Categories:* Immediate health, delayed health, fire hazard.

*Section 313 Toxic Chemicals:* styrene. You may be required to submit this MSDS to state and local emergency response agencies (SERC & LEPC) and to your local fire department. Also, you may be affected by other sections of this law, depending on the chemicals and amounts that you inventory at your location. To learn more about your responsibilities, call the EPA Hotline (800) 535-0202

**TSCA status:** All ingredients are TSCA registered.

**Proposition 65: WARNING:** This product contains a chemical known to the State of California to cause cancer.

**NFPA 704:** Health 2, Fire 2, Reactivity 0

#### **Section 16 - Preparation Information**

Prepared by Bondo Corporation Research and Development Department

Phone: 404-696-2730

Do not handle until the manufacturer's safety precautions have been read and understood. Regulations require that all employees be trained on Material Safety Data Sheets for all products with which they come in contact.

While Bondo Corporation believes that the data contained herein are accurate and derived from qualified sources, the data are not to be taken as a warranty or representation for which Bondo Corporation assumes legal responsibility. They are offered solely for your consideration, investigation and verification. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, provincial and local laws and regulations.

# Material Safety Data Sheet

according to ANSI Z400 1- 2004 and 29 CFR 1910 1200



## WINDEX® ORIGINAL GLASS CLEANER

Version 1.

Print Date 01/22/2009

Revision Date 01/16/2009

MSDS Number 350000004274

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### Product information

Trade name : WINDEX® ORIGINAL GLASS CLEANER

Use of the Substance/Preparation Company : Hard Surface Cleaner  
: S.C. Johnson & Son, Inc.  
1525 Howe Street  
Racine WI 53403-2236

Emergency telephone : 24 Hour Transport & Medical Emergency Phone (866) 231-5406  
24 Hour International Emergency Phone (952) 852-4647

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

Appearance / Odor : blue / liquid / characteristic

Immediate Concerns : Avoid contact with skin, eyes and clothing.

#### Potential Health Effects

Routes of exposure : Eye, Skin, Inhalation, Ingestion.

Eyes : None known.

Skin : None known.

Inhalation : None known.

Ingestion : None known.

Aggravated Medical Condition : None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight %
Water	7732-18-5	60.00 - 100.00
Isopropanol	67-63-0	1.00 - 5.00
Ethylene glycol Monohexylether	112-25-4	0.10 - 1.00

### 4. FIRST AID MEASURES

Eye contact : Rinse with plenty of water. Get medical attention if irritation

## Material Safety Data Sheet

according to ANSI Z400.1-2004 and 29 CFR 1910.1200



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- develops and persists.
- Skin contact : Wash off with soap and water. Get medical attention if irritation develops and persists.
- Inhalation : Remove to fresh air.
- Ingestion : Never give anything by mouth to an unconscious person. Get medical attention immediately.

#### 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Alcohol foam, carbon dioxide, dry chemical, water fog
- Specific hazards during fire fighting : Container may melt and leak in heat of fire.
- Further information : Although this product has a flash point below 200 Deg F, it is an aqueous solution containing an alcohol and does not sustain combustion. Standard procedure for chemical fires. Wear full protective clothing and positive pressure self-contained breathing apparatus.
- Flash point : 130 °F  
Method: Tag Closed Cup (TCC)
- Flash point : 54 °C  
Method: Tag Closed Cup (TCC)
- Lower explosion limit : Note: no data available
- Upper explosion limit : Note: no data available

#### 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Remove all sources of ignition.
- Methods for cleaning up : Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Dike large spills.

#### 7. HANDLING AND STORAGE

- Handling
- Advice on safe handling : KEEP OUT OF REACH OF CHILDREN AND PETS.

# Material Safety Data Sheet

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Use only as directed.

Advice on protection against fire and explosion : Keep away from heat and sources of ignition.

### Storage

Requirements for storage areas and containers : Keep container closed when not in use. Keep in a dry, cool and well-ventilated place. Do not freeze.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Occupational Exposure Limits

Components	CAS-No.	mg/m3	ppm	Basis
Isopropanol	67-63-0	-	400 ppm	ACGIH STEL
Isopropanol	67-63-0	-	200 ppm	ACGIH TWA
Isopropanol	67-63-0	980 mg/m3	400 ppm	OSHA TWA

### Personal protective equipment

#### Respiratory protection

Industrial setting : No personal respiratory protective equipment normally required.

Household setting : No personal respiratory protective equipment normally required.

#### Hand protection

Industrial setting : not required under normal use

Household setting : not required under normal use

#### Eye protection

Industrial setting : No special requirements.

Household setting : No special requirements.

Hygiene measures : Use only with adequate ventilation. Wash thoroughly after handling. Substantial amounts of mist/vapors can be controlled with local exhaust ventilation or respiratory protection. Wear suitable protective clothing.



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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Form	:	liquid
Color	:	blue
Odor	:	characteristic
pH	:	10.5 - 11.0
Melting point	:	no data available
Boiling point	:	no data available
Freezing point	:	no data available
Flash point	:	130 °F Method: Tag Closed Cup (TCC)
Flash point	:	54 °C Method: Tag Closed Cup (TCC)
Evaporation rate	:	no data available
Autoignition temperature	:	no data available
Lower explosion limit	:	no data available
Upper explosion limit	:	no data available
Vapour pressure	:	similar to water
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	no data available
Specific Gravity	:	1.0 estimated

#### 10. STABILITY AND REACTIVITY

Conditions to avoid	:	None known.
Materials to avoid	:	Strong oxidizing agents
Hazardous decomposition products	:	When exposed to fire, produces normal products of combustion.

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Hazardous reactions : Stable

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity : LD50  
Dose: estimated > 5,000 mg/kg

Acute inhalation toxicity : LC50 rat  
Dose: > 2.5 mg/l

Acute dermal toxicity : LD50 rabbit  
Dose: estimated > 2,000 mg/kg

**Chronic effects**  
Carcinogenicity : no data available

Mutagenicity : no data available

Reproductive effects : no data available

Teratogenicity : no data available

Sensitisation : Not known to be a sensitizer.

**12. ECOLOGICAL INFORMATION**

Ecotoxicity effects : Not Available

**13. DISPOSAL CONSIDERATIONS**

Industrial setting : Observe all applicable Federal, Provincial and State regulations and Local/Municipal ordinances regarding disposal.

Household setting : Consumer may discard empty container in trash, or recycle where facilities exist.

**14. TRANSPORT INFORMATION**

Land transport

## Material Safety Data Sheet

according to ANSI Z400.1- 2004 and 29 CFR 1910 1200



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#### U.S. DOT and Canadian TDG Surface Transportation:

NA number 1993  
Proper shipping name Combustible Liquid, N.O.S.  
Class: Combustible liquid  
Packaging group: III

Note: SC Johnson ships this product as "Non-Regulated" per DOT exception for Combustible Liquids. (49 CFR 173.150)

#### Sea transport

##### IMDG:

UN-Number: None.  
Packaging group: None.  
Proper shipping name not regulated  
Class: None.

#### Air transport

##### ICAO/IATA:

Class: None.  
Packaging group: None.  
Proper shipping name not regulated  
UN/ID No.: None.

## 15. REGULATORY INFORMATION

### Global Chemical Inventories

- Notification status : All ingredients of this product are listed or are excluded from listing on the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.
- : All ingredients of this product comply with the New Substances Notification requirements under the Canadian Environmental Protection Act (CEPA).
- California Prop. 65 : This product is not subject to the reporting requirements under California's Proposition 65.  
: This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

**Material Safety Data Sheet**

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**16. OTHER INFORMATION**

**HMIS Ratings**

Health	0
Flammability	2
Reactivity	0

**NFPA Ratings**

Health	0
Fire	2
Reactivity	0
Special	

**Further information**

This document has been prepared using data from sources considered to be technically reliable. It does not constitute a warranty, expressed or implied, as to the accuracy of the information contained herein. Actual conditions of use are beyond the seller's control. User is responsible to evaluate all available information when using product for any particular use and to comply with all Federal, State, Provincial and Local laws and regulations.

Prepared by:	SC Johnson Global Safety Assessment & Regulatory Affairs (GSARA)
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# MATERIAL SAFETY DATA SHEET



## Windex Powerized Glass Cleaner (RTU)

HMIS		NFPA	Personal protective equipment
Health	0	0	None Required
Fire Hazard	1	1	
Reactivity	0	0	

Version Number: 3

Preparation date: 2005-05-20

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Windex Powerized Glass Cleaner (RTU)

**MSDS #:** 126011004

**Product code:** 90122, 90135, 90139, 90940, CB006722, CB807701, 3694044, 3694052

**Recommended use:** Cleaning product.

**Manufacturer, importer, supplier:**  
 Consumer Branded Professional Products, Div.  
 JohnsonDiversey, Inc.  
 8310 16th Street  
 Sturtevant, Wisconsin 53177-0902  
 Phone: (888) 352-2249

**Emergency telephone number:** 1-800-851-7145 (Prosar); 1-651-917-6133 (Int'l Prosar); 01-800-710-3400 (México)

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Principle routes of exposure:** Eyes, Skin, Inhalation, Ingestion.

**Eye contact:** None known.

**Skin contact:** None known.

**Inhalation:** None known.

**Ingestion:** None known.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### HAZARDOUS COMPONENTS

Ingredient(s)	CAS #	Weight %	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isopropyl alcohol	67-63-0	1 - 5%	5000 mg/kg (rat)	12800 mg/kg (rabbit)	16000 ppm/8H (rat)

### 4. FIRST AID MEASURES

**Eye contact:** Rinse with plenty of water.

**Skin contact:** Rinse with plenty of water.

**Inhalation:** No specific first aid measures are required.

**Ingestion:** No specific first aid measures are required.

**Aggravated Medical Conditions:** None known.

### 5. FIRE-FIGHTING MEASURES

**Suitable extinguishing media:** Dry chemical, water spray, foam, carbon dioxide.

**Specific hazards:** Although this product has a flash point below 200 Deg. F, it is an aqueous solution containing an alcohol and does not sustain combustion.

**Unusual hazards:** None known

**Specific methods:** No special methods required

**Special protective equipment for firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**Extinguishing media which must not be used for safety reasons:** None.

### 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions:** Use personal protective equipment

Windex Powerized Glass Cleaner (RTU)

Environmental precautions and clean-up methods:

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container.

## 7. HANDLING AND STORAGE

**Handling:**

Avoid contact with eyes. COMBUSTIBLE LIQUID AND VAPOR. Keep away from open flames, hot surfaces and sources of ignition. Handle in accordance with good industrial hygiene and safety practice FOR COMMERCIAL AND INDUSTRIAL USE ONLY.

**Storage:**

Keep tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Keep out of the reach of children

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering measures to reduce exposure:**

No special ventilation requirements. General room ventilation is adequate.

**Personal Protective Equipment**

<b>Eye protection:</b>	No special requirements under normal use conditions
<b>Hand protection:</b>	No special requirements under normal use conditions
<b>Skin and body protection:</b>	No special requirements under normal use conditions
<b>Respiratory protection:</b>	No special requirements under normal use conditions
<b>Hygiene measures:</b>	Handle in accordance with good industrial hygiene and safety practice

Ingredient(s)	CAS #	ACGIH	OSHA	Mexico
Isopropyl alcohol	67-63-0	400 ppm (STEL) 200 ppm (TWA)	980 mg/m <sup>3</sup> 400 ppm	1225 mg/m <sup>3</sup> (STEL) 980 mg/m <sup>3</sup> (TWA)

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid	<b>Bulk density:</b>	No information available
<b>pH:</b>	11.45	<b>Dilution pH:</b>	No information available.
<b>Appearance:</b>	Liquid	<b>Vapor density:</b>	No information available
<b>Color:</b>	Blue	<b>Evaporation rate:</b>	No information available
<b>Odor:</b>	Ammoniacal	<b>Boiling point/range:</b>	Not determined
<b>Specific gravity:</b>	0.996	<b>Melting point/range:</b>	Not determined
<b>Density:</b>	0.996	<b>Decomposition temperature:</b>	Not determined
<b>VOC:</b>	3.8	<b>Autoignition temperature:</b>	No information available
<b>Flash point:</b>	131 (°F) 55 (°C)	<b>Viscosity:</b>	No information available
<b>Solubility:</b>	Soluble	<b>Partition coefficient (n-octanol/water):</b>	No information available
		<b>Solubility in other solvents:</b>	No information available

## 10. STABILITY AND REACTIVITY

<b>Stability:</b>	The product is stable
<b>Polymerization:</b>	Hazardous polymerization does not occur.
<b>Hazardous decomposition products:</b>	None reasonably foreseeable.
<b>Conditions to avoid:</b>	Do not freeze.

## 11. TOXICOLOGICAL INFORMATION

<b>Acute toxicity</b>	Oral LD50 estimated to be greater than 5000 mg/kg. Dermal LD50 estimated to be > 2000 mg/kg.
<b>Component Information:</b>	See Section 3
<b>Chronic toxicity:</b>	None known
<b>Specific effects</b>	
<b>Carcinogenic effects:</b>	None known
<b>Mutagenic effects:</b>	None known
<b>Reproductive toxicity:</b>	None known
<b>Target organ effects:</b>	None known

## 12. ECOLOGICAL INFORMATION

**Environmental Information:** When used for its intended purpose this product should not cause adverse effects in the environment

## 13. DISPOSAL CONSIDERATIONS

**Waste from residues / unused products:**  
 Dispose of according to all federal, state and local applicable regulations

**14. TRANSPORT INFORMATION**

DOT/TDG: Please refer to the Bill of Lading/receiving documents for up to date shipping information

**15. REGULATORY INFORMATION**

**International Inventories**

All components of this product are listed on the following inventories: U.S.A. (TSCA).

**U.S. Regulations**

**California Proposition 65:** This product is not subject to the reporting requirements under California's Proposition 65

**STATE RIGHT TO KNOW**

Ingredient(s)	CAS #	MARTK:	NJRTK:	PARTK:	RIRTK:	ILRTK:	CTRTK:
Hexyloxyethanol	112-25-4	-	Listed	Listed	-	-	-
Ammonium hydroxide	1336-21-6	Listed	Listed	Listed	-	Listed	Listed
Water	7732-18-5	-	-	-	-	-	-
Isopropyl alcohol	67-63-0	Listed	Listed	Listed	Listed	Listed	Listed

**CERCLA / SARA**

Ingredient(s)	CAS #	Weight %	CERCLA/SARA RQ (lbs)	Section 302 TPQ (lbs)	Section 313
Hexyloxyethanol	112-25-4	0.1 - 1.5%			Listed.
Ammonium hydroxide	1336-21-6	0.1 - 1.5%	1000		Listed.
Isopropyl alcohol	67-63-0	1 - 5%	100		Listed.

**SARA 311/312 Hazard Categories**

Immediate: N  
 Delayed: N  
 Fire: Y  
 Reactivity: N  
 Sudden Release of Pressure: N

**Canada**

WHMIS hazard class: Not for sale in Canada.

Ingredient(s)	CAS #	NPRI
Isopropyl alcohol	67-63-0	Listed

**16. OTHER INFORMATION**

Reason for revision: Not applicable  
 Prepared by: NAPRAC  
 Additional advice: None

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