

**EHS**

**Environmental Health and Safety**

**Handling Gasoline, Brake Fluid and Motor Oil**

**Standard Operating Procedure**

| **SOP Number:**  | **Revision Number: 0** | **Date of Last Revision:** |
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Name:

Date:

Revision Number:

Date of Revision:

**\*Optional: Attach description of process that involves the use of gasoline, brake fluid and motor oil.**

**1.0**

**Hazards Associated with Gasoline:** Slightly irritating to respiratory system. Vapors may cause drowsiness and dizziness. Irritating to the skin. Skin irritation signs and symptoms may include a burning sensation, redness, swelling, and/or blisters. If material enters lungs; signs and symptoms may include coughing, choking, wheezing, difficulty in breathing, chest congestion, shortness of breath, and/or fever. Breathing of high vapor concentrations may cause central nervous systems depression resulting in dizziness, light-headedness, headache, nausea, and loss of coordination. (Gasoline contains xylene, toluene, 1,2,4-trimethyl benzene, benzene, hexane, cyclohexane, ethylbenzene, naphthalene and styrene.)

**Hazards Associated with Brake Fluid (Hi-Temp Brake Fluid Prestone):** Causes mile skin irritation or skin sensitization, causes serious eye damage; may cause damage to kidneys and liver through prolonged or repeated ingestion. Breathing high concentrations of vapors or mists may cause irritation, headache, dizziness, drowsiness, nausea, loss of sense of balance and visual disturbances.

**Chronic effects of brake fluid:** Prolonged or repeated skin contact with this product may possibly lead to irritation and dermatitis. Prolonged or repeated exposures may cause damage to the central nervous system, blood, lung, liver or kidneys. Adverse reproductive effects may also occur.

**Hazards Associated with Motor Oil:** Causes eye and skin irritation.

**2.0 Controls:**

**2.1 Engineering Control:**

* Work under portable snorkel when feasible.

**2.2 Administrative Controls:**

* Do not work alone in the Falmouth Annex. Implement the buddy system.
* Attend baseline laboratory safety training (required annually). The training schedule is located at the following link - [website](http://www.uml.edu/ehs/Training_Schedule.html).
* Receive laboratory-specific training on handling gasoline, brake fluid and motor oil.
	+ Document this training in section 8 of the Chemical Hygiene Plan Notebook.
* Know the location of the emergency shower and eyewash station.
* Review this SOP and applicable safety data sheets as part of your laboratory-specific training on handling brake fluid, gasoline and motor oil.
* Keep a hard copy of the safety data sheets in section 6 of the CHP Notebook.
* Place this SOP in section 7 of the CHP Notebook.
* Purchase only enough material needed to complete Formula SAE team project.
* Wash hands thoroughly with soap and water after removing gloves.
* Empty containers retain product residue and may be hazardous. Do not cut, weld, drill, etc. containers, even when empty.
* Use bonding and grounding procedures when handling gasoline. See Gary Howe, Laboratory Director of the Falmouth Annex, for lab-specific training regarding this.

**2.3 Personal Protective Equipment:**

* Safety goggles are required if there is a splash hazard. Safety glasses are required at a minimum.
* Face shield required if there is a splash hazard to the face.
* Disposable coveralls (optional)
* PVC coated gloves with gauntlet cuffs to protect wrist and forearms are recommended for handling Prestone brake fluid according to the SDS. Neoprene or PVC coated gloves are recommended for handling gasoline and either of these types of gloves can be worn for handling motor oil.
* Closed toe shoes and pants

**3.0 Precautions:**

* Avoid contact with eyes and skin.
* Avoid inhalation of vapor or mist.
* Only use in well ventilated areas.
* Wash thoroughly after handling.
* Avoid breathing vapors and avoid contact with material.
* Even with proper grounding and bonding for gasoline, this material can still accumulate an electrostatic charge.
* Avoid sparks.
* Do not smoke inside the Falmouth Annex.
* Do not eat and drink inside the Falmouth Annex.

**4.0 Storage:**

**Keep away from excessive heat and open flames. Keep containers closed when not in use. Store in a cool, dry area.**

* Store in a well-ventilated location.

**5.0 Disposal:**

Place the UMass Lowell Hazardous Waste Label on the container and fill out the label. Full and/or dated containers of hazardous waste are picked up by EEM-EHS during the weekly inspection checks for satellite accumulation areas or upon request by calling 42543.

Empty containers that once contained gasoline, brake fluid and motor oil must be disposed of as hazardous waste. Please properly label the empty container with a hazardous waste label.

**NOTE: Gloves, rags and other solid waste contaminated with gasoline, brake fluid, and motor oil must be disposed of as hazardous waste in a 30 gallon drum. There must be one 30 gallon drum for rags and gloves contaminated with gasoline and brake fluid and a separate drum for rags and gloves contaminated with motor oil. Contact John Freeman at 4-2543 if there are any questions regarding hazardous waste.**

**6.0 Emergency Procedures:**

**6.1 Spills**

**For spills**

* If Formula SAE team has received proper training on how to clean up an oil spill from EHS or Gary Howe and a proper spill kit is available such as oil dry for oil spills, the spill may be cleaned up by the Formula SAE team. (Oil is not typically a respiratory tract irritant. The team can clean this up on their own if spill kit available. Oil dry material containing spilled oil must be placed in a five gallon pail for proper disposal as hazardous waste. Place a hazardous waste label on the five gallon pail with all the proper information filled out on the hazardous waste label.) For small quantities of gasoline and brake fluid, material can be cleaned up with rags and disposed of in the 30 gallon drum for solid hazardous waste. For large quantities of spilled gasoline and brake fluid, evacuate the Falmouth Annex and call 44911 to report the large spill. EEM-EHS will respond to clean up the spill. Stay close by outside of the building until EEM-EHS arrives so that you can report details regarding the incident.

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**6.2 First Aid**

For eyes

* Irrigate the eyes for 15 minutes, holding eyelids apart.
* Call extension 44911 or 978-934-4911 from a cell phone to seek medical assistance and then can keep track of the length of time eyes are being irrigated.

 For skin

* For full body exposure, remove contaminated clothing and go under the emergency shower for 15 minutes. If bare hands and/or arms are contaminated, rinse area with soap and water for 15 minutes.
* Call extension 44911 or 978-934-4911 from your cell phone immediately to seek medical assistance.

For inhalation

* Remove to fresh air. Seek medical attention immediately. Call extension 44911 or 978-934-4911 from a cell phone.

**6.3 Fire:**

* Evacuate the Falmouth Annex, pull the nearest fire alarm pull station and then go to a safe area and call extension 44911 or 978-934-4911 from a cell phone. Follow the fire safety evacuation plan.

**NOTE:** All work-related injuries must be reported immediately to Human Resources (HR) by calling extension 43560. (HR has some forms that will need to be filled out within 48 hours after the incident.) An Incident/Injury Report Form must be filled out and faxed to EEM-EHS at 978-934-4018. [The Incident/Injury Report Form is available on-line at [website](http://www.uml.edu/ehs). Please double click on the link, under quick links, for permits and forms.]

*\*The buddy, supervisor, or Principal Investigator may fill out the Incident/Injury Report Form while the injured employee follows first aid procedures and seeks medical attention.*