Standard Operating Procedure

Fire Extinguisher Release Cleanup and Decontamination

**This is an SOP template and is not complete until: 1) lab specific information is entered into the box below 2) lab specific protocol/procedure is added to the protocol/procedure section and
3) SOP has been signed and dated by the PI and relevant lab personnel.**

Print a copy and insert into your *Hazard Communication Program* and/or *Lab-Specific Chemical Hygiene Plan*.

# **Section 1 – Location-Specific Information**

| **Department:** | Click here to enter text. |
| --- | --- |
| **Date SOP was written:** | Click here to enter a date. |
| **Date SOP was approved by PI/Supervisor:** | Click here to enter a date. |
| **Principal Investigator/Supervisor:** | Click here to enter text. |
| **Safety Coordinator/Manager:** | Click here to enter text. |
| **Phone:**  | Click here to enter text. |
| **Office Phone:** | Click here to enter text. |
| **Emergency Contact:** | Click here to enter text. |
| *(Name and Phone Number)* |
| **Location(s) covered by this SOP:** | Click here to enter text. |
| *(Building/Room Number)* |

**Section 2 – Type of SOP:**

[x]  Process [ ] Hazardous Chemical [ ]  Hazardous Class

**Section 3 – Process Description**

If this is an emergency, please call 911.

Fire extinguisher residue must be cleaned up following a discharge. This SOP provides guidelines for the cleanup and decontamination after a fire suppression release (handheld extinguisher or automated system) that **DOES NOT** pose an emergency situation. The process is only to be performed by individuals who have received PPE training. Alternatively, REM’s Environmental Safety Service Team is available to assist with the cleanup of discharge residue that requires the use of a High Efficiency Particulate Air (HEPA) vacuum. In the food service operations, cleanup and decontamination process must be completed before any food preparation may occur.

A note on using this SOP: The protocols in Section 8 are organized in four sections, based on the extinguishing agent types and areas:

* Discharge of Class K Wet Fire Extinguisher Agent in Food Preparation Areas
* Discharge of Wet Fire Extinguisher Agent from an Automated Suppression System in Food Preparation Areas
* Discharge of Class ABC Dry Fire Extinguisher Agent in Non-Food Preparation Areas
* Discharge of Class BC/Purple K or D Dry Fire Extinguisher Agent in Non-Food Preparation Areas

Proper personal protective equipment must be worn while performing the cleanup and decontamination steps.

**Section 4 – Potential Hazards**

Fire extinguishing agents may cause irritation upon eye or skin contact. When inhaled or ingested, they may cause irritation to respiratory tract or mucous membranes. Consult SDS for hazard information of each fire extinguishing agent.

**Section 5 – Personal Protective Equipment (PPE)**

**Skin and Body Protection:** Long-sleeve attire, full-length pants and close-toed shoes must be worn.

**Hand Protection:** Rubber gloves or nitrile/neoprene gloves.

**Respirator Protection:** Respiratory protection may be required. If respiratory protection is necessary, contact REM at 765-494-6371 so a respiratory protection analysis can be performed.

**Eye Protection:** Safety goggles may be required.

**Hygiene Measures:** Do not eat, drink or smoke during the cleanup process. Wash thoroughly and immediately with soap and water after the cleanup is complete. Remove any contaminated clothing and wash before reuse.

**Section 6 – Engineering Controls**

Ensure adequate ventilation.

**Section 7 – First Aid Procedures**

**If inhaled:** Move to the fresh air immediately and seek medical attention.

**In case of skin contact:** Wash with soap and water. Seek medical attention if irritation persists. Wash any contaminated clothing before reuse. Thoroughly clean shoes before reuse.

**In case of eye contact:** Check for and remove any contact lenses. Rinse the eyes thoroughly with plenty of water for at least 15 minutes. Seek immediate medical attention if irritation persists.

**If swallowed:** Drink large quantities of water. Do NOT induce vomiting unless directed by medical personnel. Never give anything by mouth to an unconscious person. Seek immediate medical attention.

**Section 8 – Protocol/Procedure**

The protocols listed below are for the discharge of fire extinguisher agents in food preparation areas and in other areas on campus. If a fire extinguisher has been discharged as the result of a fire/emergency, call 911.

**Decontamination Procedure for the Discharge of Class K Wet Fire Extinguisher Agent in Food Preparation Areas**

NOTE: Class K wet chemical extinguisher (gel) agent is designed and recommended for controlling cooking oil fires.

1. Consult the SDS of the chemical agent to determine the chemical health hazards.
2. Don the appropriate PPE as described in Section 5.
3. Discard contaminated cooking oil and food product.
4. Use soap and water to wash the food preparation areas that are contaminated with over-spray.
	1. The agent released from Class K wet chemical fire extinguishers is clear, making over-spray difficult to see.
	2. To ensure all agent is removed from over-spray areas, wash any areas that may have been contaminated with the over-spray even if the contamination is not immediately visible.
5. Rinse the over-spray areas with clean water.
6. Sanitize the over-spray areas with a food-safe disinfectant.
7. Repeat the previous three steps until there is no longer any contamination on the food preparation area.
8. Dispose of dish cloths or mops that are used in the decontamination process in the trash. These items cannot be reused.
9. REM must be notified if an extinguisher is discharged in a food preparation area. Contact REM-Environmental and Health Specialist at 765-494-1498.
	1. The affected food preparation area cannot be used until it is inspected by REM.

**Decontamination Procedure for the Discharge of Wet Fire Extinguisher Agent from an Automated Suppression System in Food Preparation Areas**

NOTE: Wet chemical extinguisher agent is designed and recommended for controlling cooking oil fires.

1. Consult the SDS of the chemical agent to determine the chemical health hazards.
2. Don the appropriate PPE as described in Section 5.
3. Ensure that all electrical controls have been shut off.
4. Discard contaminated cooking oil and food product.
5. Remove the discharged agent using sponges or dish cloths*.*
6. Use soap and water to wash the food preparation areas that are contaminated with over-spray.
	1. The agent released from wet chemical fire extinguishers is clear, making over-spray difficult to see.
	2. To ensure all agent is removed from over-spray areas, wash any areas that may have been contaminated with the over-spray even if the contamination is not immediately visible.
7. Rinse the over-spray areas with clean water.
8. Sanitize the over-spray areas with a food-safe disinfectant.
9. Repeat the previous three steps until there is no longer any contamination on the food preparation area.
10. Dispose of dish cloths or mops that are used in the decontamination process in the trash. These items cannot be reused.
11. REM must be notified if an extinguisher is discharged in a food preparation area. Contact REM-Environmental and Health Specialist at 765-494-1498.
	1. The affected food preparation area cannot be used until it is inspected by REM.

**Decontamination Procedure for the Discharge of Class ABC Dry Fire Extinguisher Agents in Non-Food Preparation Areas**

NOTES: The Environmental Safety Service Team is available to perform these cleanups, if necessary. They can be contacted at 765-494-1019.

Discharge from a Class ABC dry chemical extinguisher is designed and recommended for controlling ordinary fires.

1. Consult the SDS of the chemical agent to determine the chemical health hazards.
2. Don the appropriate PPE as described in Section 5.
3. Use a wet-sweeping method to remove bulk dry powder discharge from a Class ABC fire extinguisher.
	1. Use caution to prevent the powder from contaminating clean areas.
	2. After the bulk dry powder is removed, either the Environmental Safety Team or employees of the affected department can complete the following steps.
4. Dispose of the collected bulk dry powder material in a trash bag, tie the trash bag off, and place the trash bag in the regular trash.
5. Use an acceptable cleaner to clean the walls and floors that have been contaminated with the discharge agent.
	1. Acceptable cleaners for Class ABC fire extinguisher agent include, but are not limited to soap and water, diluted vinegar, and diluted isopropyl alcohol.
	2. Repeat this process until there is no longer a powder residue on any surfaces.
6. Dispose of dish cloths or mops that are used in the decontamination process in the trash. These items cannot be reused.

**Decontamination Procedure for the Discharge of Class BC/Purple K or D Dry Fire Extinguisher Agents in Non-Food Preparation Areas**

NOTES: The Environmental Safety Service Team is available to perform these cleanups, if necessary. They can be contacted at 765-494-1019.

Discharge from a Class BC/Purple K dry chemical extinguisher is designed and recommended for controlling fires caused by flammable liquids and energized electrical equipment.

Discharge from a Class D dry chemical extinguisher is designed and recommended for controlling combustible metal fires.

1. Consult the SDS of the chemical agent to determine the chemical health hazards.
2. Don the appropriate PPE as described in Section 5.
3. Use a High Efficiency Particulate Air (HEPA) filter vacuum to remove bulk dry powder discharge from a Class BC/Purple K or Class D fire extinguisher.
	1. Use caution to prevent the powder from contaminating clean areas.
	2. The powder can be wetted to reduce the potential for airborne contamination.
	3. If the affected area does not have access to a HEPA filter vacuum, contact the Environmental Safety Service Team at 765-494-1019.
	4. After the bulk dry powder is removed, either the Environmental Safety Team or employees of the affected department can complete the following steps.
4. Dispose of the collected bulk dry powder material in a trash bag, tie the trash bag off, and place the trash bag in the regular trash.
5. Use an acceptable cleaner to clean the walls and floors that have been contaminated with the discharge agent.
	1. Acceptable cleaners for Class BC/Purple K or Class D fire extinguisher agent include, but are not limited to soap and water, diluted vinegar, and diluted isopropyl alcohol.
	2. Repeat this process until there is no longer a powder residue on any surfaces.
6. Dispose of dish cloths or mops that are used in the decontamination process in the trash. These items cannot be reused.

**Section 9 – Spill and Accident Procedures**

None.

**Section 10 – Medical Emergency**

**Life Threatening Emergency, After Hours, Weekends and Holidays:** Dial **911**

**Non-Life Threatening Emergency**: Immediately report injury to supervisor and complete the First Report of Injury. (<https://www.purdue.edu/ehps/rem/froi/ai.html>)

**Section 11 – Waste Disposal Procedures**

**Dispose of Waste:**

Fire extinguishing agent cleanup waste such as contaminated debris (e.g., dish cloths, paper towels) should be collected in a trash bag and dispose of in a regular waste.

**Section 12 – Safety Data Sheet (SDS)**

A current copy of the SDS for the specific fire extinguishing agent should be maintained. To obtain a copy of the SDS, contact the fire extinguisher manufacturer. Many manufacturers’ SDSs can be found online. If copies of the SDS sheets cannot be found from the manufacturer or online, contact REM at 765-494-6371 for further assistance.

**Section 14 – Documentation of Training (signature of all users is required)**

* Prior to conducting any cleanup and decontamination work, designated personnel must provide training to his/her personnel specific to the hazards involved in working with this fire extinguishing agent, work area decontamination, and emergency procedures.
* The supervisor must provide his/her personnel with a copy of this SOP and a copy of the SDS provided by the manufacturer.

**I have read and understand the content of this SOP:**

| **Name** | **Signature** | **Date** |
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