1. Procedure summary

The following procedures apply to any chemical substances generated from Sapphire operations that are classified as hazardous based on the criteria described below.

1.1. Related Procedures

1.2. Procedure impacts and concerns

Safety	Severe	Improper disposal of hazardous waste could lead to injuries and illnesses for Sapphire Employees.
Quality	NA	
Delivery	NA	
Environmental	Severe	Improper disposal of hazardous waste could have a severe negative impact on the environment.
Cost	Severe	Improper disposal of a hazardous waste can lead to severe penalties and fines.
Compliance	Severe Compliance with OSHA's Hazardous Waste Operations and Response, and Hazardous Communication Standard in addition to the Sapphire Energy, Inc. Chemical Hygiene Plan is required. See 29 CFR 1910.120 and 1200. An AUL list, MSDSs and label information will be available for easy reference in a binder in the administration building.	

1.3. Responsibilities and owners

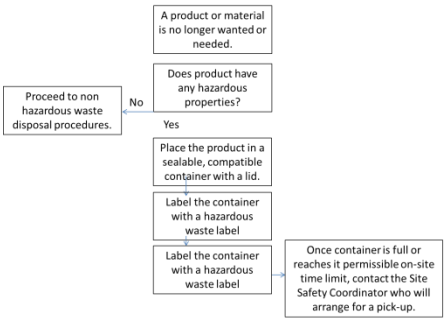
Document Owner	Manage content and distribution	Rebecca White
Process Owner	Responsible for content and process validation	Rebecca White
Site Manager	Responsible for implementation and conformance	Rebecca White

2. Process

2.1. Process description

This procedure provides guidance on the proper storage, labeling, and disposal of hazardous waste.

2.2. Process diagram: Work Instruction



2.3. Process steps

2.3.1. Federal and State regulations define hazardous waste as a substance which poses a hazard to human health or the environment when improperly managed. A chemical waste is considered hazardous if it is either listed on one of the lists of hazardous wastes found in Federal or State regulations or exhibits one or more of the four characteristics listed below.

2.3.1.1. Ignitable
2.3.1.2. Corrosive
2.3.1.3. Reactive
2.3.1.4. Toxic

2.3.2. Once it is determined that the material is a hazardous waste.

2.3.2.1. Place hazardous waste in sealable containers and whenever possible, containers should be filled, leaving headspace for expansion of the contents. Often the original container is perfectly acceptable.

2.3.2.2. Waste stored near drains (floor, sink, cup sink) should have secondary containment.

2.3.2.3. If you routinely generate significant quantities of compatible solvents or other liquids, bulking of waste in five-gallon carboys may be practical and are available throughout the laboratories for flammable solvent waste.

NOTE: No more than one quart of an acutely hazardous waste or 55 gallons of other hazardous wastes may be stored (per waste stream) in a satellite accumulation area.

2.3.2.4. The container should not react with the waste being stored (e.g. no hydrofluoric acid in glass). Similar wastes may be mixed if they are compatible (e.g. non-halogenated solvents).

Waste is not to be added to the containers indiscriminately. All waste added to the containers must be compatible in terms of both general chemistry and inter-chemical cross-reactivity.

2.3.2.5. Containers must be **kept closed** except during actual transfers.

Do not leave a hazardous waste container with a funnel in it.

2.3.2.6. When the waste container is full, or the storage limit (one year) is reached, the user is to move the hazardous waste to the appropriate central accumulation area.

2.3.2.7. Waste in the form of unused or expired regents can be left in their original containers. Label the container as outlined below and move to the appropriate central accumulation area.

2.3.2.8. Chemical containers less than five gallons in size that have been

triple-rinsed (with the rinsate disposed as hazardous waste), air- dried in a ventilated area and label defaced can be placed in the trash or recycled.

2.3.3. LABELING CHEMICAL WASTE CONTAINERS

2.3.3.1The Environmental Protection Agency requires containers that hold hazardous waste to be appropriately labeled. The following information must be included on the label:

2.3.3.1.1. The words "HAZARDOUS WASTE"

2.3.3.1.2. Composition and physical state of the waste

2.3.3.1.3. Statement or statements that call attention to the particular hazardous properties of the waste (eg. flammable, reactive, corrosive, toxic, etc.)

2.3.3.1.4. The accumulation start date

2.3.3.1.5. The name and address of the generator

2.3.3.2. Labeling must be accurate and legible and must be placed on the container upon start of the accumulation!

2.3.3.3. If a container does not have a hazardous waste label the waste broker will not pick it up.

2.3.3.4. Waste container labels can be obtained from the Site Safety Coordinator. Use of these labels is mandatory.

2.3.4. ACCUMULATION OF HAZARDOUS WASTE

2.3.4.1. Hazardous waste containers in a Satellite Accumulation Area must be transferred to the Central Accumulation Storage Area within one year from the accumulation start date listed on the waste container or within three days of the container becoming full.

2.3.4.2. Hazardous waste storage containers will be held in the Central Accumulation Storage Area pending transport to the disposal facility.

2.3.4.3. While being held in this area waste shipments must be labeled as described above.

2.3.5. DISPOSAL PROCEDURES

2.3.5.1. Specific arrangements for getting material to the Central Accumulation Area are the responsibility of the individual departments.

2.3.5.2. Do not bring wastes to the Central Accumulation Area that is not properly identified. It is the chemical user's responsibility to identify and properly label all chemical wastes. The disposal company cannot legally transport or dispose of unidentified/unknown waste. If they are abandoned at the pickup site they remain the responsibility of the department.

2.3.5.3. **Disposal of hazardous waste using sinks, intentional evaporation, or as regular trash is against the law.**

2.3.6. DISPOSAL DOCUMENTATION

2.3.6.1. In preparation for a waste shipment, a Uniform Hazardous Waste Manifest is to be completed. This will be carried out by the company serving as the waste broker.

2.3.6.2. After the waste containers have been loaded, a Sapphire representative (who has received Department of Transportation training) is responsible for:

2.3.6.2.1. Ensuring that the information contained on the Uniform Hazardous Waste Manifest correctly describes the

hazardous waste shipment, that all appropriate sections of the manifest have been completed, and that all information contained on the manifest is correct.

2.3.6.2.2. Signing the manifest to document the shipment.

2.3.6.2.3. Filing the manifest with the Site Safety Coordinator.

2.3.6.3. Upon receiving the copy of the manifest bearing the signature of the representative of the Treatment, Storage & Disposal Facility (TSDF), the Site Safety Coordinator will attach this copy of the manifest to the generator copy already in the files.

2 Required documents

2.3 Input documents

2.4 Output documents

3 Document control

3.3 Revision history

R0 – Initial Release – Rebecca White	05/25/2012
R1 – Clark Gentry	10/09/2013

3.4 Document approval

3.5 Document reviewers

4 Risk analysis

<Risk name>	<Mitigation plan>	<Owner>	<RPN>