

# SPILL CONTROL/SOLVENT MANAGEMENT GUIDELINE

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A spill control/solvent management plan provides methods for the reduction of toxics in effluents and assists industrial facilities in achieving compliance with Applicable Regulations. An outline of the spill control/solvent management plan that is required is presented below.

The Plan has three basic steps:

Step 1: Process engineering analysis must consist of:

- a. A water flow diagram to identify all possible wastewater sources.
- b. A list of raw materials used in the industrial processes, including chemical additives, water treatment chemicals and cleaning agents, and the wastewater stream that each material potentially enters;
- c. Comparison of the toxics found in the effluent with the list of raw materials and a selection of the most probable water source;
- d. Evaluation of the toxics found in the effluent, but not on the raw materials list and determination of those formed as reaction products or by-products;
- e. Examination of sources such as: equipment corrosion or raw materials impurities contributing inorganic pollutants.

Step 2: Pollutant Control Evaluation

An evaluation should be made of the control options that should be implemented to eliminate the toxic compound(s) or the source of toxic organic compound introduction to the treatment system. This may include plant modifications, solvent or chemical substitutions, partial or complete recycle, reuse, neutralization, and operational changes. The analysis should be conducted on a case-by-case basis and will often result in one or more feasible options to control each source or potential source of toxic pollutant discharge.

Step 3: Preparation of Spill Control/Solvent Management Plan

A spill control/solvent management plan must include the following items at a minimum:

- a. A complete inventory of all toxic organic chemicals including spent process solutions in use, identified through sampling and analysis of the wastewater from regulated process operations (organic constituents of trade-name products should be obtained from the appropriate suppliers as necessary) or stored on site;
- b. Description of the methods of disposal other than dumping used for the inventoried compounds such as reclamation, contract hauling, or incineration;
- c. The procedures for ensuring that the inventoried substances do not spill or routinely leak into process wastewaters, flood drains, non-contact cooling water, groundwater, surface waters (i.e.: Spill Prevention, Control, and Countermeasures (SPCC) Plan) or any other location which allows discharge of the compounds; and

## SPILL CONTROL/SOLVENT MANAGEMENT GUIDELINE (CONTINUED)

- d. Determinations or best estimates of the identities and approximate quantities of toxic organic pollutants used as well as discharged from the regulated manufacturing processes. Compounds present in waste streams that are discharges to sanitary sewers may be a result of regulated processes or disposal, spills, leaks, rinse water carryover, air pollution control, and other sources.
- e. Methods used to contain a spill should should one occur.
- f. List of person(s) to notify should a spill occur.
- g. List of affected Agencies (BSA, NYSDEC, etc.) to notify should a spill occur
- h. Certification by the designated environmental official that the plan has been implemented

## Release prevention, control and countermeasure plans

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The control of toxic and Hazardous substances which may pose an unreasonable risk to health and environment is the basic purpose of all environmental and product safety legislation. However, the Clearwater Act, the Resource Conservation and Recovery Act and now Superfund (SARA) require plans to be developed by industrial sources to minimize the risk of unplanned releases of toxic and hazardous substances. To meet the letter as well as the spirit of these laws and demonstrate that your company recognizes the importance of preventing releases of contaminants into the environment, each plant should develop and implement a Release Prevention, Control and Countermeasures Plan.

The plan must be designed to provide for the following:

1. It must give the procedures and controls used to prevent toxic and hazardous atmospheric emissions; oil and hazardous substances spills to the land; harmful releases of hazardous substances to the subsurface environment.
2. It must stress the immediate coordination of all activities to minimize any harmful health and environmental effects and include notifications to appropriate government agencies and affected communities as required.

For the purpose of handling releases of contaminants appropriately, the plan must also provide descriptions of the duties to be performed by facility personnel, procedures to be followed, training, available equipment and available outside resources.

Typical requirements of release prevention, control and countermeasure laws are listed below.

- MSDSs inventory and location of toxic and hazardous substances which could be spilled or released at the facility
- Description of the manner in which such substances are stored and used
- Preventative maintenance program
- Procedures and provisions for prevention and control of accidental spills and releases
- Training and management practices
- Probable nature, causes, and routes of any sudden or unexpected spills or such substances including a profile of the area and the proximity to the public
- Response procedures to be followed at the plant such as response actions, on-site alarm systems, and evacuation plans
- Notification procedures to local emergency response agencies such as Police, Fire Departments and Hospitals.
- List of names, addresses, and phone numbers of appropriate plant personnel qualified to act as the facility's emergency coordinator
- List of emergency equipment on-site and off-site resources

Developing a plan based on the following outline is suggested:

### General Facilities Information:

- A. Plant Description
- B. Storage tanks and process vessels

- C. Hazardous waste storage
- D. Loading and unloading facilities
- E. Piping
- F. Site security
- G. Lighting

Prevention Programs:

- A. Relief valve inspection and maintenance program
- B. Preventative maintenance program
- C. Corrosion protection program
- D. Tank integrity, inspection and leak detection programs
- E. Emission and discharge monitoring programs
- F. Drum control program
- G. Personnel training

Atmospheric Release Control and Countermeasures:

- A. Air pollution abatement systems inspection and maintenance program
- B. Preventative measures and equipment
- C. Special precautions against uncontrolled releases
- D. Containment measures and alarm system

Release and Hazardous Waste Control:

- A. Release potential, prediction, and control
- B. Containment and diversionary structures
- C. Commitment of manpower and equipment
- D. Facility drainage
- E. Hazardous waste storage
- F. Personnel handling hazardous waste
- G. High-level alarms
- H. Special Precautions
- I. Inspections
- J. Release history

Emergency Control and Response Plan:

- A. Emergency response procedures
- B. Emergency notification list
- C. Responsibilities and actions
- D. Release and emergency response equipment
- E. Evacuation plan
- F. Arrangement with local authorities
- G. Plan amendment

Approval and Certifications

- A. Management approval and commitment
- B. Professional certifications

Release Reporting Requirements:

- A. Federal
- B. State

Forms and Tables:

- A. Storage tank inspection form
- B. Drum area inspection form
- C. Environmental agency contact form
- D. Environmental incident report form
- E. Environmental inspection report form
- F. Emission inventory form
- G. Chemical inventory form
- H. Air pollution abatement equipment order log
- I. Facility layout and area map
- J. Job title and descriptions
- K. SPCC, hazardous substances and waste management training program schedule
- L. Release response equipment list
- M. Emergency equipment list
- N. Emergency notification list
- O. Outside emergency contacts
- P. Medical emergency information
- Q. Waste Analysis plan
- R. Material safety data sheets
- S. Release decision tree

A correctly constructed and implemented plan can serve as an SPCC plan, RCRA contingency plan and will also meet the requirements of current state level release prevention, control and countermeasures laws. PE

# RELEASE DECISION TREE

