ORGANIZATION & PROCEDURE MANUAL

SP-019
~~D-0916~~

MONSANTO COMPANY **CHOCOLATE BAYOU PLANT**

4/5-btm- TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

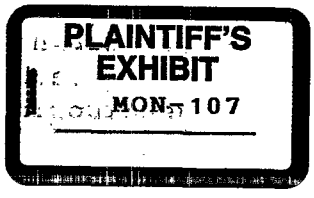
PURPOSE

The purpose of this procedure is to establish a systematic means of reporting and handling transportation accidents involving major chemical products originating from or commodities consigned to the Chocolate Bayou Plant in Monsanto owned or leased equipment.

POLICY

Notification of transportation accidents involving Monsanto products should be promptly and courteously accepted by any employee of the company. Prime responsibility for handling transportation accidents lies with the carrier. However, when such accidents involve Monsanto Chocolate Bayou products in Monsanto leased or owned equipment, Monsanto will offer assistance to the carrier to accomplish the following objectives:

a. Minimize further injury or loss of life.
b. Minimize unfavorable publicity.
c. Clean-up and salvage.



SCOPE

This procedure applies to any method of shipment of all products originating from the Chocolate Bayou Plant. The major products that fall within this category are:

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

D. Simultaneously with the organization of help and advice, the plant manager will direct a member of his staff to notify Central Distribution, Public Relations, Safety, Sales, Insurance, Legal and Medical Departments of the accident.

E. For pipeline emergencies refer to "Emergency Procedures and Management Plan, Cross-Country Pipelines," published and distributed by the pipeline manager.

GENERAL

Appendix B describes Standard Precautionary Measures to be taken in the event of an accident. As the bulletins of the various properties and hazards of our major products are completed, they will be added as attachments to this procedure. The information contained herein is to be supplied to a caller only by an individual who is technically qualified to do so, e.g., a Distribution supervisor or Production supervisor.

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Plant Manager

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STANDARD PRECAUTIONARY MEASURES

CAUTION: This information to be provided only by Distribution or Production supervision. Get the name and position of person requesting information before giving advice.

1. If there is leakage

   a. Keep all people away.
   b. Immediately notify local sheriff or state police of potential hazard and request they keep area clear of people and vehicles.
   c. Instruct the police to call Monsanto at 581-2161 from 8:00 a.m. to 4:30 p.m. during the week or 581-2157 at night, weekends, and holidays.
   d. Do not permit unqualified personnel to attempt repairs.
   3. Other instructions will vary depending on conditions, but must be consistent with the maintenance of maximum safety pending arrival of Emergency Team.

2. If contents of container are burning

   a. Protect surrounding area.
   b. Keep all people away.
   c. Immediately notify the police of potential hazard and request they keep area clear of people and vehicles.
   d. Instruct the police to call Monsanto at 581-2161 from 8:00 a.m. to 4:30 p.m. during the week or 581-2157 at night, weekends, and holidays.
   e. Do not permit unqualified personnel to attempt repairs. Other instructions will vary depending on conditions, but must be consistent with the maintenance of maximum safety pending arrival of Emergency Team.

3. If container is damaged but not leaking

   a. If container can be temporarily repaired and moved without hazard, advise caller to proceed.
   b. If major repairs are necessary, container is not to be moved or repaired until Emergency Team arrives on site or Monsanto personnel advise disposition.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Acetone

Shipped by: Tank Car, Tank Truck, Barge

Fire and Explosion Hazard

1. Description: Colorless, water-soluble, flammable liquid, fragrant mint-like odor.
2. Flashpoint: 0° F
3. Explosive Range: 2.5 - 12.8% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguisher, water fog.

Health Hazard:

Maximum allowable for prolonged exposure is 1000 ppm in air. Irritating to skin, eyes and nose. Narcotic effect in high concentrations. Air masks in strong concentrations. Workers overcome, remove from area, rest, aid breathing with oxygen. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain fire, cooling equipment, protecting exposure. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Acrylonitrile

Shipped By: Tank Car, Barge

Fire and Explosion Hazard:

1. Description: Clear liquid, with a faint pungent odor like that of peach seed kernels.
2. Flashpoint: 30°F
3. Explosive Range: 3% to 17% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: Water fog, dry chemical, CO_2

Health Hazard:

Maximum allowable concentration for prolonged (8 hours) breathing exposure is 20 ppm. The liquid and vapors are dangerous to the eyes. Mild exposure causes nausea, vomiting, weakness; occasionally, headache and diarrhea.

Remove to fresh air, notify physician, remove contaminated clothing, wash with large amounts of water, aid breathing with oxygen. Amyl nitrite is antidote. Aspirols of amyl nitrite can be broken and held over the nostrils for 15 to 30 seconds per minute.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: AMS (Alpha Methyl Styrene)

Shipped By: Barge, Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description: Pale yellow flammable liquid shipped as a liquid at atmospheric pressure.
2. Flashpoint: 136°F
3. Explosive Range: Unknown
4. Precautions: No smoking or open lights.
5. Extinguished by: Dry chemical or CO_2, fire extinguishers, water fog.

Health Hazard:

Breathing chemical may cause headache or dizziness. Remove to fresh air. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Isoprene

Shipped by: Tank Truck

Fire and Explosion Hazard:

1. Description: Colorless, flammable liquid. Shipped as a liquid under slight pressure.
2. Flashpoint: -65° F
3. Explosive Range: 1.5 - 7.5% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguisher, water fog.

Health Hazard:

Breathing may irritate the nose, throat, and upper respiratory tract. Principal problem is one of breathing -- air dilution. Remove to fresh air. Flush body splashes with water.

Immediate Action

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Benzene

Shipped by: Tank Car, Tank Truck, Barge and Pipeline. Refer to "Emergency Procedure and Management Plan, Cross-Country Pipelines."

Fire and Explosion Hazard:

1.	Description:	Colorless, flammable liquid with aromat odor.
2.	Flashpoint:	12° F
3.	Explosive Range:	1.5 - 8% by volume in air.
4.	Precautions:	No smoking or open lights.
5.	Extinguished by:	CO_2 or dry chemical extinguishers, water fog.

Health Hazard:

Maximum allowable for prolonged breathing exposure is 35 ppm in air. Short breathing exposure to heavy concentrations may be fatal. May penetrate skin. May cause dizziness, tightenin of leg muscles, and pressure sensation on forehead. Workmen overcome, remove to fresh air, aid breathing with oxygen, summon physician. Air masks in heavy concentrations. Avoid skin contact. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Butadiene

Shipped by: Tank Car

Fire and Explosion Hazard:

1. Description: Colorless, flammable gas with characteristic odor shipped as liquid under pressure.
2. Flashpoint: Less than 20°F.
3. Explosive Range: 2.0 - 11.5% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: See "Immediate Action" Note: May form explosive peroxides on exposure to air.

Health Hazard:

Maximum allowable for prolonged breathing exposure is 1000 PPM in air. Principal problem is one of breathing-air dilution. High concentration may cause dizziness. Remove to fresh air. When heated emits acrid vapors. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Explosion possible. Remove sources of ignition. Dissipate material with water fog. Stop leak if possible. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment with water fog. DO NOT EXTINGUISH FIRE UNLESS LEAK CAN BE SHUT OFF. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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ATTACHMENT #7

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Butene - 2

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description: Colorless, flammable gas shipped as liquid under pressure.
2. Flashpoint: Less than 20°F.
3. Explosire Range: Estimate 2 - 9% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: See "Immediate Action."

Health Hazard:

High concentration may cause dizziness primarily due to air dilution. Remove to fresh air.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Explosion possible. Remove sources of ignition. Dissipate material with water fog. Stop leak if possible. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment with water fog. DO NOT EXTINGUISH FIRE UNLESS LEAK CAN BE SHUT OFF. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Butylenes, Mixed (C_4's)

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description: Colorless flammable gas shipped as liquid under pressure.
2. Flashpoint: Less than 20°F.
3. Explosire Range: Estimate 2 - 9% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: See "Immediate Action."

Health Hazard:

High concentration may cause anesthetic effects and may cause dizziness. Remove to fresh air.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Explosion possible. Remove sources of ignition. Dissipate material with water fog. Stop leak if possible. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment with water fog. DO NOT EXTINGUISH FIRE UNLESS LEAK CAN BE SHUT OFF. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: L.A.N. (Light Arcmatic Naptha)

Shipped by: Tank Truck

Fire and Explosion Hazard:

1. Description: Colorless flammable liquid shipped as a liquid at atmospheric pressure.
2. Flashpoint: 26C F
3. Explosive Range: Unknown
4. Precautions: No smoking or open lights.
5. Extinguished by: Dry chemical or CO_2 fire extinguisher, water fog.

Health Hazard:

Breathing chemical may cause headache or dizziness.
Remove to fresh air.
Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Methyl Acetylene (Propyne)

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description — Colorless flammable gas shipped as a liquid under pressure.
2. Explosive Range: 2.4 - 11.7% by volume in air.
3. Precautions — No smoking or open lights.
4. Extinguished by — See "Immediate Action"

Health Hazard:

Maximum allowable concentration for prolonged breathing expose is 1000 ppm by volume in air. Has a slight anesthetic effect. Principal problem is one of breathing - air dilution. Remove to fresh air. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking not burning - Isolate area. Explosion possible. Remove sources of ignition. Dissipate material with water fog. Stop leak if possible. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting equipment with water fog.
DO NOT EXTINGUISH FIRE UNLESS LEAK CAN BE SHUT OFF. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: C_9 Aromatics (heavy aromatics)

Shipped by: Tank Truck

Fire and Explosion Hazard:

1. Description: Straw colored, flammable liquid with solvent odor.
2. Flashpoint: 110-115°F.
3. Explosive: Yes, at moderate temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguisher, water fog.

Health Hazard:

Breathing considerable quantities may cause headache, dizziness. Remove to fresh air. Avoid skin contact. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

ORIGINAL

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: DIPB (diisopropyl benzene)

Shipped by: Tank Cars and Tank Trucks

Fire and Explosion Hazard:

1. Description: Clear, colorless, flammable liquid.
2. Flashpoint: 170°F.
3. Explosive: Yes, at moderate temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Low vapor pressure reduces breathing hazard. Breathing heated vapors may cause headache and dizziness. Remove to fresh air. Prolonged skin contact may irritate.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Ethane

Shipped by: Pipeline. Refer to "Emergency Procedure and Management Plan, Cross-Country Pipelines."

Fire and Explosion Hazard:

1. Description: Colorless, odorless, flammable gas.
2. Explosive Range: 3.3 - 10.6% by volume in air.
3. Precautions: No smoking or open lights.
4. Extinguished by: See "Immediate Action."

Health Hazard:

High concentrations have an anesthetic effect. Does not give warning - no odor. May cause headache and drowsiness. Remove to fresh air and aid breathing with oxygen.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Explosion possible. Remove sources of ignition. Dissipate material with water fog. Stop leak if possible. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment with water fog. DO NOT EXTINGUISH FIRE UNLESS LEAK CAN BE SHUT OFF. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Ethylbenzene (EB)

Shipped by: Tank Car, Tank Truck, Barge and Pipeline. Refer to "Emergency Procedure and Management Plan, Cross-Country Pipelines."

Fire and Explosion Hazard:

1. Description: Colorless, flammable liquid with aromatic odor.
2. Flashpoint: 85°F.
3. Explosive Range: 1 - 6% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers, water fog.

Health Hazard:

Maximum allowable for prolonged breathing exposure is 200 PPM in air. Dangerous to eyes and irritating to upper respiratory passages. May produce headache, vomiting. Remove to fresh air, aid breathing with oxygen. Notify physician. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Ethylene

Shipped by: Pipeline. Refer to "Emergency Procedure and Management Plan, Cross-Country Pipelines."

Fire and Explosion Hazard:

1. Description: Colorless, flammable gas with suffocating, ethereal odor.
2. Explosive Range: 3.0 - 34.0% by volume in air.
3. Precautions: No smoking or open lights.
4. Extinguished by: See "Immediate Action."

Health Hazard:

Maximum allowable for prolonged breathing exposure is 5500 PPM by volume in air. May cause anesthetic effects. Relatively nonhazardous to health.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Explosion possible. Remove sources of ignition. Dissipate material with water fog. Stop leak if possible. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment with water fog. DO NOT EXTINGUISH FIRE UNLESS LEAK CAN BE SHUT OFF. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Phthalic Anhydride

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard.

1. Description: Shipped as a colorless liquid or white solid.
2. Flashpoint: 329°F
3. Explosive Range: 1.7% - 10.4% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers, water fog.

Health Hazard.

Breathing will cause irritation of the nose, throat, and upper respiratory tract. Avoid skin contact. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire. Cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Naphthalene

Shipped by: Tank Car

Fire and Explosion Hazard:

1. Description: White, crystalline, volatile flakes with mothball odor.
2. Flashpoint: 176°F (melting point 177°F).
3. Explosive Range: 0.9 - 5.9% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 and dry chemical extinguishers; water fog.

Health Hazard:

Breathing considerable quantities may cause headache, nausea. Remove to fresh air.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Naphthalene Bottoms

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description: Reddish-brown, sticky, semi-solid with mothball odor.
2. Flashpoint: Above 300°F.
3. Explosive: Yes, at high temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 and dry chemical extinguishers; water fog.

Health Hazard:

Breathing may irritate nose, throat, and in considerable quantities, may cause headache and dizziness. Remove to fresh air. Avoid skin contact. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Naphthalene Concentrate

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description: Yellow-green to black, flammable liquid with slight mothball odor.
2. Flashpoint: Estimate 200° F.
3. Explosive: Yes, at high temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguisher; water fog

Health Hazard:

Breathing may irritate nose, throat, and in considerable quantities may cause headache and dizziness. Remove to fresh air. Avoid skin contact. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Pentenes (C_5's)

Shipped by: Tank Car, Tank Truck

Fire and Explosion Hazard:

1. Description: Colorless, flammable liquid with gasoline type odor.
2. Flashpoint: Less than 0°F
3. Explosive Range: Estimated 2 - 8% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers, water fog.

Health Hazard:

Vapors may irritate nose, throat. High concentration may cause headache, dizziness. Remove to fresh air.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Phenol (carbolic acid)

Shipped by: Tank Car, Tank Truck, and Barge

Fire and Explosive Hazard:

1. **Description:** White crystalline organic material. Sweetish aromatic odor.
2. **Flashpoint:** 175° F (melts at 104° to 105.8° F). Solid phenol burns with difficulty and gives off heavy smoke. The liquid is readily combustible.
3. **Explosive:** Yes, at high temperature.
4. **Precautions** No smoking or open lights.
5. **Extinguished by:** CO_2 or dry chemical extinguisher, water fog

Health Hazard:

Maximum allowable concentration 5 ppm by volume in air. Highly toxic and dangerous when handled incorrectly. Exerts a local corrosion effect and is readily absorbed through the skin and mucous membranes, through the gastrointestinal track, or through the lungs. After absorption of phenol, the toxic effects are exerted primarily on the central nervous system, but following sufficient exposure there may be also damage to the lungs, kidneys, liver, pancreas, and spleen. Exposure to fatal amounts usually results in death within a few hours.

A serious burn may result unless phenol is removed promptly and thoroughly. In case of failure to wash the phenol completely from all contaminated skin areas, in the very minimum of time and if a large portion of the body surface is involved, death may result very quickly. Patient should be removed immediately from the toxic vapor or mist to fresh air or an uncontaminated atmosphere. A physician should be called immediately.

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ATTACHMENT #24

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Resin Oil

Shipped by: Tank Cars and Tank Trucks

Fire and Explosion Hazard:

1. Description: Yellow-to-black, flammable liquid with aromatic odor.
2. Flashpoint: 120°F.
3. Explosive: Yes, at moderate temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Breathing heavy concentrations may cause sore throat, headache, nausea. Remove to fresh air. Considerable skin contact may cause irritation. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Resin PR (aromatic pitch, tar, all grades)

Shipped by: Tank Car, Tank Truck, and Barge

Fire and Explosion Hazard:

1. Description: Black tar with aromatic odor. Melts above 100°F.
2. Flashpoint: 275-300°F.
3. Explosive: Yes, at high temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Do not breathe hot vapors. Low vapor pressure at room temperature reduces breathing hazard. If overcome with hot vapors, remove to fresh air, aid breathing, and notify physician. Avoid skin contact of cold or hot material.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Toluene

Shipped by: Tank Car, Tank Truck, and Barge

Fire and Explosion Hazard:

1. Description: Colorless, flammable liquid, benzene like odor.
2. Flashpoint: 40°F.
3. Explosive range: 1.25 - 7.0% by volume in air.
4. Precautions: No smoking or open lights.
5. Fire extinguished by: CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Maximum allowable concentration of toluene 200 PPM in air. Absorbed through mouth, nose and skin. Narcotic effect. Workmen overcome to be removed from area and rested. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Xylenes

Shipped by: Tank Truck, Barge

Fire and Explosion Hazard:

1. Description: Water-white liquid with an aromatic odor, flammable.
2. Flashpoint: 80.6°F.
3. Explosive Range: 1 - 6% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers, water fog.

Health Hazard:

Maximum allowable concentration of xylene for prolonged exposure is 200 PPM in air. Irritating to the skin and eyes and nervous system. Workers overcome, remove from area, aid breathing with oxygen. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Raffinate

Shipped by: Barge

Fire and Explosion Hazard:

1. Description: Colorless flammable liquid shipped as a liquid at atmospheric pressure.
2. Flashpoint: less than 40°F
3. Explosive Range: 1.3 to 8.0% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: Dry chemical, CO_2, water fog.

Health Hazard:

Breathing chemical may cause headache or dizziness. Remove to fresh air. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: SAB

Shipped by: Tank Car, Barge

Fire and Explosive Hazard:

1.	Description:	Light amber liquid shipped at atmospheric pressure
2.	Flashpoint:	310° F
3.	Explosive Range:	Not Known
4.	Precautions:	No smoking or open lights.
5.	Extinguished by:	CO_2 or dry chemical extinguisher, water fog.

Health Hazard:

Non-toxic material. However, splashes should be flushed with water. May cause headaches or dizziness. Remove to fresh air.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposure with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Ortho-xylene

Shipped by: Barge, Tank Truck, Tank Car

Fire and Explosion Hazard:

1. Description: Colorless flammable liquid shipped as a liquid at atmospheric pressure.
2. Flash point: 63°F
3. Explosive Range: 1.0-6.0% by volume in air.
4. Precautions: No smoking or open lights.
5. Extinguished by: Dry chemical or CO_2 fire extinguishers, water fog.

Health Hazard:

Maximum allowable concentration is 200 ppm. Has a strong narcotic action. Remove to fresh air. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.

2. Container leaking not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Resinox P-99

Shipped by: Tank Truck and Drums

Fire and Explosion Hazard:

1. Description: Clear colorless liquid with sweetish aromatic odor
2. Flash Point: 205°F (COC)
3. Explosive: Yes, at high temperatures.
4. Precautions: No smoking or open light.
5. Extinguished by: CO_2 or dry chemical extinguisher, water fog.

Health Hazard:

Contains 50% phenol and 18% formaldehyde. Phenol has a maximum allowable concentration 5 ppm by volume in air. Highly toxic and dangerous when handled incorrectly. Exerts a local corrosion effect and is readily absorbed through the skin and mucous membranes, throug the gastrointestinal track, or through the lungs. After absorption of phenol, the toxic effects are exerted primarily on the central nervous system, but following sufficient exposure there may be also damage to the lungs, kidneys, liver, pancreas, and spleen. Exposure to fatal amounts usually results in death within a few hours.

A serious burn may result unless phenol is removed promptly and thoroughly. In case of failure to wash the phenol completely from all contaminated skin areas in the very minimum of time and if a large portion of the body surface is involved, death may result very quickly. Patient should be removed immediately from the toxic vapor or mist to fresh air or an uncontaminated atmosphere. A physician should be called immediately.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Pheno-Plast Resins (PF 541, PF 543, PF 544, PF 545, PF 546, PF 563, Resinox 514-3)

Shipped by: Tank Car and Tank Truck

Fire and Explosion Hazard:

1. Description: Reddish to brown liquid with a formaldehyde odor.
2. Flash Point: Greater than 180°F
3. Explosion: No danger

Health Hazard:

Contains free phenol and formaldehyde. Highly toxic and dangerous when handled incorrectly. Phenol in the resins exerts a local corrosion effect and is readily absorbed through the skin and mucous membranes, through the gastrointestinal track, or through the lungs. After absorption of phenol, the toxic effects are exerted primarily on the central nervous system, but following sufficient exposure, there may be also damage to the lungs, kidneys, liver, pancreas, and spleen. Remove to fresh air. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking - Isolate area. Repair or take necessary steps as situation warrants. Special assistance furnished by Monsanto if desired.
3. Container Exposed to Fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Resinox 596 Varnish

Shipped by: Tank Car, Tank Truck, and Drums

Fire and Explosion Hazard:

1. Description: Heavy amber colored liquid with formaldehyde odor
2. Flash Point: Greater than 80°F
3. Explosive: At moderate temperatures.
4. Precaution: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Breathing heavy concentrations may cause sore throat, headache, nausea. Remove to fresh air. Considerable skin contact may cause irritation. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer reques[illegible] lant manager.

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ATTACHMENT #35

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Amino-Plast Resins (Resimene 860, 841, 842; Scripset 101; Urea Formaldehyde 113, UFE 2097, UFH 299, UFG 17-86, UFG 17-52, UFG 17-67, UFG 17-57, UFG 5-95, UFG 5-93)

Shipped by: Tank Trucks

Fire and Explosion Hazard:

1. Description: Water white liquid with formaldehyde odor.
2. Flash Point: Greater than 180°F
3. Explosion: No danger.

Health Hazard:

Prolonged skin contact may cause irritation. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking - Isolate area. Repair or take necessary steps as situation warrants. Special assistance furnished by Monsanto if desired.
3. Container Exposed to Fire - Isolate area. Contain the fire, cooling equipment, protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Sodium NTA Monohydrate

Shipped by: Tank Car

Fire and Explosion Hazard:

1. Description: White crystalline powder with aminoacetate odor.
2. Explosive: Yes, at a minimum dust concentration of two ounces per cubic foot with a spark of 160 joules.
3. Precaution: No smoking or open lights.
4. Combustion: Not flammable.

Health Hazard:

Dust will irritate skin and eyes. Remove to fresh air. Flush irritated area with water.

Immediate Action:

1. Container not leaking - Repair or take necessary steps as situation warrants.
2. Container leaking - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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ATTACHMENT #37

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE
TRANSPORTATION ACCIDENTS

Product: Heavy Aromatic Concentrate (H.A.C.)

Shipped by: Tank Cars and Tank Trucks

Fire and Explosion Hazard:

1. Description: Yellow-to-black, flammable liquid with aromatic o
2. Flash Point: 120°F
3. Explosive. Yes, at moderate temperatures.
4. Precautions: No smoking or open lights.
5. Extinguished by: CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Breathing heavy concentrations may cause sore throat, headache, nausea. Remove to fresh air. Considerable skin contact may cause irritation. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance:

Transfer request to plant manager.

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TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Dicyclopentadiene (DCPD)

Shipped by: Tank Car and Barge

Fire and Explosion Hazard:

1. **Description:** Clear liquid.
2. **Flash Point:** 90°F
3. **Explosive:** Yes, at moderate temperatures.
4. **Precautions:** No smoking or open lights.
5. **Extinguished by:** CO_2 or dry chemical extinguishers; water fog.

Health Hazard:

Breathing heavy concentrations may cause sore throat, headache, nausea Remove to fresh air. Considerable skin contact may cause irritation. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired.
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment, protecting exposures. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance.

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Transfer request to plant manager.

ATTACHMENT #39

TRANSPORTATION ACCIDENTS INVOLVING CHOCOLATE BAYOU PRODUCTS

EMERGENCY HANDLING PROCEDURE TRANSPORTATION ACCIDENTS

Product: Piperylene

Shipped by: Tank Truck

Fire and Explosion Hazard:

1. **Description:** Colorless, flammable liquid. Shipped as a liquid under slight pressure.
2. **Flash Point:** -56°F
3. **Explosive Range** 1.5 - 7.5% by volume in air.
4. **Precautions:** No smoking or open lights.
5. **Extinguished by:** CO_2 or dry chemical extinguisher. water fog.

Health Hazards:

Breathing may irritate the nose, throat, and upper respiratory tract. Principal problem is one of breathing --- air dilution. Remove to fresh air. Flush body splashes with water.

Immediate Action:

1. Container not leaking - Isolate area. Repair or take necessary steps as situation warrants.
2. Container leaking, not burning - Isolate area. Remove sources of ignition. Special assistance furnished by Monsanto if desired
3. Container burning or exposed to fire - Isolate area. Contain the fire, cooling equipment protecting exposures with water fog. Rupture of container is possible. Monsanto to furnish assistance if desired.

Carrier Requesting Assistance.

Transfer request to plant manager.

SCRAP MATERIALS DISPOSITION

PURPOSE

The purpose of this procedure is to define the responsibilities and objectives related to the disposition of scrap materials.

POLICY

The scrap materials will be defined and handled in such a way that salvage, trash, and other related materials will also be correctly handled. Selected scrap materials (primarily those not having value greater than routine scrap) will be made available to employees, prior to selling to a junk dealer.

SCOPE

Scrap material is defined as any numbered or unnumbered equipment or materials which are not justified for retention and/or reuse and for which only scrap value may be obtained when disposing these items. Only specified solid waste (See O & P D-0304) and "contaminated materials" (any piping that has residue; that has been in Phenol, sulfuric acid, hydrogen cyanide, or other similar service; and any closed containers such as 55-gallon drums or sample bombs) will go directly to the state registered plant landfill. Equipment that has some residue, or that has been in Phenol, sulfuric acid, hydrogen cyanide or similar service shall receive special handling as defined on the equipment transfer form (O & P D-0301). All other used or left-over materials will go to the Scrap and Salvage Yard.

RESPONSIBILITIES

The Stores supervisor will be responsible for the operation of the Scrap and Salvage Yard.

Individuals generating the scrap (primarily I&E Maintenance foremen, Mechanical Maintenance foremen, and contractor supervision foremen) will be responsible for separating and delivering the scrap materials to the Scrap and Salvage Yard.

The Purchasing Agent is responsible for advertising any special scrap available to employees, and for obtaining the best sales price for all scrap materials sold to junk dealers.

SCRAP MATERIALS DISPOSITION

The Safety Department (Security Force) is responsible for opening and closing the Scrap and Salvage Yard when it is opened for employees. They are also responsible for maintaining records of items moved.

PROCEDURE

Rev Specific solid wastes (broken concrete, etc.) and contaminated materials will be delivered directly to the landfill site. Before scrap materials are delivered to the Scrap and Salvage Yard, they should be separated into three categories:

(1) Carbon Steel Materials
(2) Alloy and Non-Ferrous Materials
(3) Reuseable Wood

Individuals delivering scrap materials will accomplish the unloading at the direction of the full-time individual assigned to manage the Yard. Rev The Yard will accept deliveries on days only (Monday through Friday, 8:00 A.M. until 4:00 P.M.). Stores supervision should be contacted when off-shift deliveries are required. The Yard man will visit a job site (for jobs with lots of scrap) when assistance is requested in specifying dispostion of materials.

Scrap materials made available to employees will be for their use only (not for resale). Visiting the Scrap Yard to determine the nature of materials for personal use will not be permitted. Specific hours will be established by the Personnel Department to allow selection and removal of these materials.

Rev Trips to the landfill site to dump materials will be restricted to those people who have previously obtained a permit from the Environmental Control House.

PREPARED BY: R. E. Belden

APPROVED BY: G. E. Davenport

PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

PURPOSE

This procedure outlines requirements for procuring and handling radioactive materials and x-ray producing equipment.

POLICY

Procurement and handling of radioactive materials and x-ray producing equipment will conform to the Texas Regulations for Control of Radiation.

LICENSING

Authority to possess and use radioactive materials and x-ray producing equipment is granted to Monsanto Company, Texas City, by the State of Texas. The "Texas Regulations" require the naming of a Radiation Safety Officer (RSO), and of the principal users (Isotope Committee) of the materials in application for radioactive material licenses.

Members of the Isotope Committee are as follows:

Radiation Safety Officer - John E. Fox - Loss Prevention Department, Texas City; 1st alternate, Royal Benson; 2nd alternate, Frank Bryant;

Chocolate Bayou Radiation Safety Officer - James C. Edwards; first alternate, Jackie Williams.

RESPONSIBILITIES

Persons using radioactive materials or x-ray producing equipment or owning Departments of nuclear devices responsible for knowing and complying with the safety requirements applicable to their use.

The RSO is responsible for assuring that Monsanto meets its obligations to the State for the safe and proper handling of radioactive materials and x-ray equipment at Texas City and Chocolate Bayou.

The Isotope Committee is responsible for ordering the materials and for training and supervising others in their use.

The Chocolate Bayou Radiation Safety Officer (RSO) is administratively responsible for monitoring the presence, storage, and use of radioacti materials and x-ray equipment at the Chocolate Bayou Plant.

The RSO will review, approve, and monitor activities that require plan personnel to handle radioactive materials or x-ray equipment.

PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

MTS (Night Superintendents on off-hours) will arrange for the services of contract radiographers making equipment inspections and insure compliance with this procedure.

The Maintenance Contractor Foreman will insure that radiographers reporting to prime contractors comply with this procedure.

The CED Construction Engineer will insure that contract radiographers working on CED Projects comply with this procedure.

Stores Shipping and Receiving Clerk is responsible for notifying the RSO upon the arrival or shipping of radioactive materials.

PROCEDURE

A. Procurement

1. Requests for radioactive materials or x-ray equipment will be directed to the RSO. He will arrange for the materials thru the Texas City RSO.

2. The Texas City RSO will obtain the materials and be responsible for monitoring their handling until receipt by the Chocolate Bayou RSO is confirmed.

3. Material received at the plant shall not be opened or removed from Stores until checked by the RSO.

4. The Chocolate Bayou RSO will log-in radioactive material entering the plant and the location stored. He will log material out of the plant and monitor their handling until received by the Texas City RSO.

B. Storage

1. The RSO will assure that radioactive materials are stored in properly labeled and shielded containers secured against unauthorized access or removal.

2. Sealed sources shall be shielded to reduce the radiation level to a maximum of 50 mr/hr at the surface and a maximum of 5 mr/hr at 12 inches.

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PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

C. Handling and Use

1. Use of radioactive materials for plant tests in operating units require approval by the RSO.

2. Personnel using radioactive materials or x-ray producing equipment shall have been trained by the RSO, or a member of the Isotope Committee.

3. The RSO will log radioactive material in and out of storage including the name of the person responsible for their use and the proximate location of use.

4. The person using the materials will conform to the job plan and maintain physical custody of the materials until they are returned to storage.

5. Sealed sources used in fixed devices shall be installed, placed in operation, or removed only with the approval of the RSO.

6. Vessels using sealed sources may not be entered until the source holder has been locked in the shielded position or removed. The owning department is responsible for maintaining this control. It may be necessary to call the RSO or Safety to verify that the shield is in the proper position.

7. For x-ray equipment owned and/or operated by Monsanto, the installation, operation and repair plans, and any modification to the installation must be approved by the RSO.

8. No repairs or attempted repairs shall be made to nuclear sources. If there is doubt as to whether or not a source is performing properly, contact the RSO.

D. Contract Radiographers

1. Contract radiographers must follow the requirements of the "Texas Regulations" including the wearing of film badges and dosimeters in pocket chambers. The RSO will maintain up-to-date copies of the "Texas Regulations".

2. Radiation areas must be posted and barricaded off in accordanc with the "Texas Regulations".

3. The Monsanto Supervisor responsible for the contract radiographers performance will assure that the contractor is knowledgeable of safety precautions and that they are followed.

PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

4. The Truck Gate Security Officer will notify the Safety Department upon the arrival of contract radiographers as to the contractor's name and location of the work. He will also report departures from the plant.

5. The Monsanto Supervisor will advise the Safety Department prior to changing locations of contract radiographers from one operating area to another.

6. The Monsanto Supervisor will notify operating departments within 600 feet of the actual work of the risk of stray radiation interfering with process instruments.

7. Source strength shall be limited to maximums of 50 curies for Ir 192 and 35 curies for Cobalt 60. Use of stronger sources will require RSO approval.

8. Sources of radiation should be removed from the plant any time the contract personnel leave. The Monsanto Supervisor must obtain Safety Department approval to leave a source in the plant in the radiographers absence.

E. Radiation Monitoring

1. The Safety Department shall maintain a map showing the location of all radiation detectors, sealed sources in fixed devices.

2. If radioactive materials are involved in a fire or explosion a radiation survey will be made by the Safety Department or RSO before personnel will be permitted to begin investigative and restoritive activities.

3. Film badges shall be worn at all times by personnel handling radioactive materials or x-ray equipment and by any other person likely to receive doses of radiation in excess of that permitted in part 21.105 of the "Texas Regulations". These badges will be issued by and returned to the Industrial Hygiene Department.

4. Areas using unsealed radioactive materials shall be surveyed as necessary by the person using the material and shall be monitored semi-annually by the RSO.

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PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

5. All fixed devices using sealed sources and all x-ray producing equipment shall be surveyed by the RSO for radiation profile upon installation and semi-annual thereafter.

6. All sealed sources shall be "wipe tested" at six month intervals by the RSO.

F. Disposal

1. A radioactive Waste Disposal Request form must be filled out and approved by the RSO before any such waste may be discarded. (See Attachment #1)

G. Records

1. Copies of purchase orders and receipts of all radioactive materials and x-ray equipment.

2. Monthly total of each radioactive material in the Texas City and Chocolate Bayou Plants.

3. Disposal records.

4. Radiation profile on each fixed device utilizing a sealed source and x-ray producing machine taken immediately after installation.

5. Location of radioactive materials and x-ray equipment.

6. Film badge records.

7. Semi-annual wipe test of all sealed sources.

8. Semi-annual monitor survey of x-ray equipment.

9. Investigation reports of radioactive spills or excess personnel exposure to radiation.

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PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

The Safety Department at Chocolate Bayou will maintain the log of receipts, storage, use, and return of radioactive materials as indicated above.

AUTHOR: J. C. Edwards
J. C. Edwards

APPROVED BY: J. S. Hagood
J. S. Hagood

APPROVED BY: G. E. Davenport
G. E. Davenport

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PROCUREMENT AND HANDLING OF RADIOACTIVE MATERIALS AND X-RAY PRODUCING EQUIPMENT

ATTACHMENT #1

RADIOACTIVE WASTE DISPOSAL REQUEST

Date_____ Location of Waste_____

Approximate volume and composition_____

Curie activity of each radioactive element_____

External radiation_____

Container to be saved or destroyed_____

Disposal requested by_____

FINAL DISPOSAL

Place of disposal_____

Method of disposal_____

Disposed by_____

Date_____ Radiation Safety Officer_____

Date_____ Chocolate Bayou Safety Director_____

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