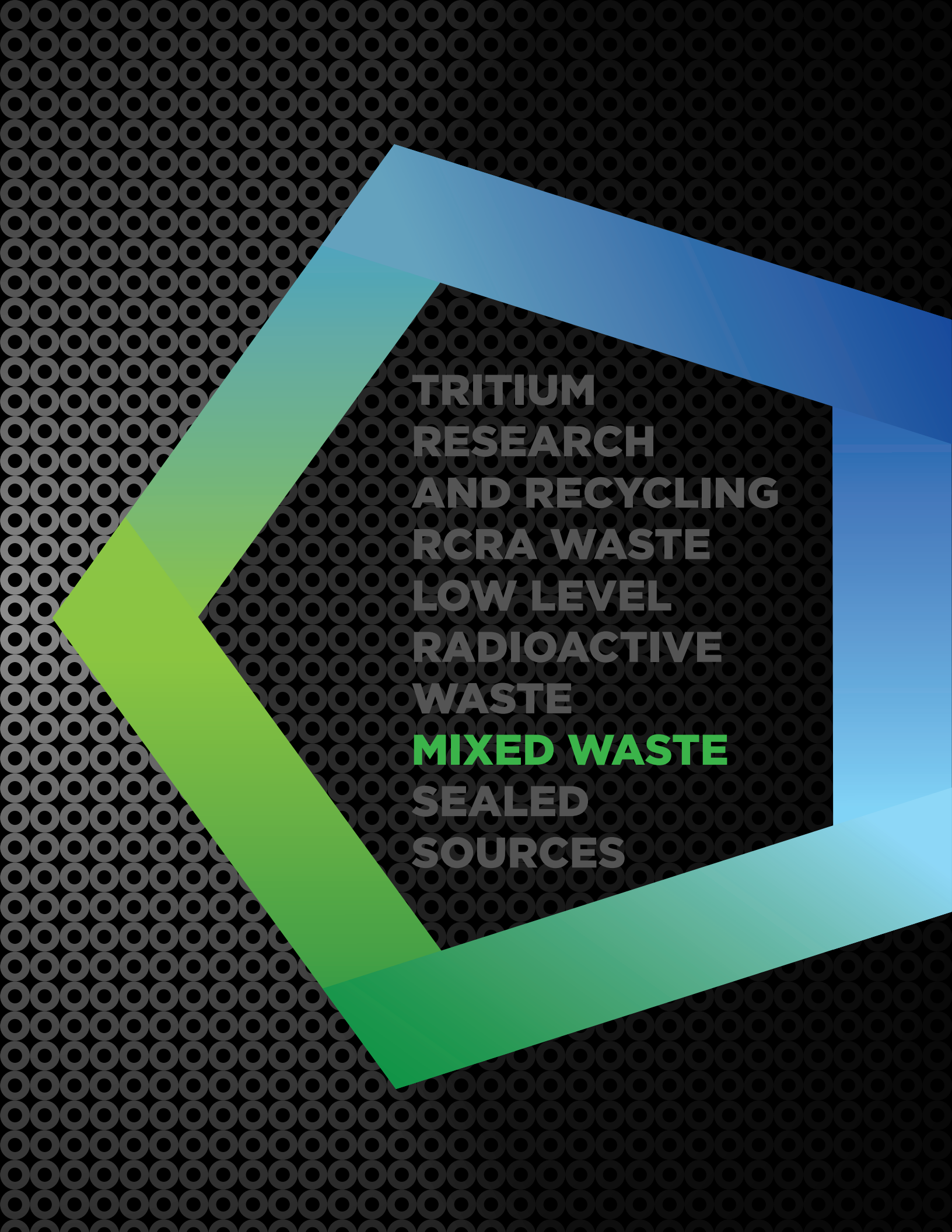
TRITIUM
RESEARCH
AND RECYCLING
RCRA WASTE
LOW LEVEL
RADIOACTIVE
WASTE
MIXED WASTE
SEALED
SOURCES

Acceptable Wastes

- Reactives
- Isobutanol
- Methanol
- Methyl Ethyl Ketone
- Napthalene
- Pyridene
- Toluene
- Xylene
- Empty containers
- Miscellaneous chemical contaminated materials
- Labpacks and containers to be consolidated into labpacks
- Paint sludge
- Paint sludge containing chlorinated solventss
- Igniable wastes
- Toxicity characteristic wastes
- Acutely hazardous wastes
- Toxics
- Cyanides
- Wastewater containing organics, metals and oils
- Organic liquids
- Sludge from oxidation/reduction
- Solids from solvent still
- Stabilized waste
- Sludge from blending/separation/ storage tanks
- Spent halogenated solvents
- Oil and solvents
- Acetone
- n-Butyl alcohol
- Corrosives
- Waste ion exchange media and solids
- Benzene
- Consolidated hazardous solids
- Cyclohexane
- Cyclohexanone
- 1,4 Dioxane
- Ethyl acetate
- Formaldehyde
- Cumene
- Waste carbon adsorption media and solids
- Filter solids and media
- Hazardous liquids and solid material
- Ethyl ether
- Blended hazardous waste fuel
- Compressed hazardous waste gas
- Spent non-halogenated solvents

Special Provision

Radioactive or nuclear waste materials (i.e., waste material which emits ionizing radiation spontaneously) which also fit the acceptable waste descriptions above.

Mixed Waste

Waste containing both radioactive and hazardous constituents has been generated since the begining of the commercial nuclear industry. This waste has come to be known as mixed waste. When the first Federal regulations covering radioactivity were adopted, they were intended to apply to all radioactive materials, without consideration of other hazardous characteristics. During the early 1980s, State and Federal agencies began to question generators and site operators regarding mixed wastes and compliance with the requirements of RCRA. By 1995, as a result of public and congressional attention, radioactive/hazardous mixed wastes were addressed as a part of the Low-Level Radioactive Policy Amendments Act (LLRWPAA) of 1985. In 1988, the EPA assumed regulatory control of mixed waste storage and treatment facility (TSDF) permitting. Mixed wastes are now subject to joint control by the NRC/Agreement States and EPA.

Permitting

NSSI operated as an interim status Waste Treatment and Storage facility from 1980 to 1990. NSSI subsequently submitted the required Part B application and received a final Part B permit in October, 1990.

Storage

NSSI is currently permitted with a storage and processing capacity of 58,530 gallons in 20 tanks. An additional capacity of 180,793 gallons of container storage is provided in 5 container storage areas. NSSI provides temporary permitted storage services for generators of hazardous and radioactive waste.

	Industrial Facilities					Medical/Academic Institutions		Nuclear Industry
TYPE OF MIXED LLW	Pharmaceutical manufacturing and research	Biotechnology manufacturing and research	Other manufacturing and research	Spent fuel storage	Waste processor	Medical / clinical and research	University nonmedical research	Power plants
Liquid Scintillation coctails or fluids	Laboratory counting procedures	Laboratory counting procedures	Laboratory counting procedures	N/A	Processing to separate fluid from vials	Laboratory counting procedures	Laboratory counting procedures	Laboratory counting procedures
Organic chemicals	Residue from research and manufacturing; Cleaning of laboratory and process equipment	Spent reagents from experiments; Cleaning of laboratory equipment	Residue from research and manufacturing; Cleaning of laboratory and process equipment; Expired product	N/A	Cleaning of process equipment	Cleaning of process equipment	Cleaning of laboratory equipment	Cleaning of laboratory equipment; Cleaning of contaminated components
Trash with organic chemicals	N/A		N/A	N/A	N/A	Contaminated trash	Contaminated trash	Contaminated trash
Lead	Contaminated during use	Contaminated during use	Residue from manufacturing	N/A	Separation from waste	Contaminated during use	Contaminated during use	Contaminated during use
Lead decontamination solutions	N/A	N/A	N/A	N/A	Decontamination of lead shielding	N/A	N/A	Decontamination of lead shielding
Waste oil	Oil from contaminated equipment	Oil from contaminated equipment	Oil from radioactive systems/areas	N/A	Oil from radioactive systems	N/A	Oil from radioactive systems	Oil from radioactive systems and hot shop
Trash with oil	Oil from contaminated equipment	Oil from contaminated equipment	Oil from contaminated equipment	N/A	Oil from contaminated equipment	Oil from contaminated equipment	Oil from contaminated equipment	Oil from radioactive systems and hot shop
Chloroflurocarbon (CFC) solvent	Residue from research	Residue from research	Residue from research	N/A	Contaminated trash	HPLC	HPLC	Clothes laundry
CFC concentrates	N/A	N/A	N/A	N/A	Clothes laundry; Tool decontamination	N/A	N/A	Clothes laundry; Tool decontamination
Aqueous corrosive liquids	Residue from research	Residue from research	Residue from research	Cleaning of spent fuel casks; Backflush of resin filters	N/A	Residue from research	Residue from research	N/A
Chromate waste	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Resin changeouts
Cadmium waste	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Spent welding rods; Weld cleaning; Equipment decontamination

Mixed Waste Generation

Mixed waste generation studies have indicated that 3-10% of all Low Level Radioactive Waste is mixed waste containing both radioactive and chemical constituents. Mixed wastes are generated by many industrial, medical, and educational facilities.

Permitted Treatments

- Operation of Mercury Retort Unit
- Recovery of waste chemicals and other material for reuse or resale
- Blending of wastes to form a fuel for use off site
- Recycling of solvents
- Breaking down lab packs for reconsolidations for off-site disposal or on-site processing
- Consolidation of waste containers into labpacks
- Neutralization, oxidation, reduction, and other chemical reactions or physical processing (e.g. distillation) to render wastes less hazardous or more suitable for offsite disposal or on-site processing in an authorized tank or container storage unit
- Cleaning of cullet or particulate solids, empty drums, and equipment
- Centrifugation, filtration, and ion exchange in portable equipment within an authorized storage area
- Solidification or stabilization (including amalgamation) in portable equipment in an authorized container storage area
- Shredding of containers for recovery of contents
- Consolidation of miscellaneous compatible hazardous waste
- Chemical and/or mechanical treatment to accomplish separation, settling, or clarification in portable rquipment within an authorized container storage area
- Removal of hazardous constituents by absorption on solid media in portable equipment within an authorized container storage area
- Drying of solids to meet off-site disposal criteria for release of water only

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