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LIMITED SHELF-LIFE CHEMICALS

PROCEDURE E-113

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Please direct any questions or comments about the applicability of this document to Luigi Marcone, WCSU Department of Public Safety

### Limited Shelf Life Chemicals

Western Connecticut State University (WCSU), through literature, brochures, and Manufacturer's Material Safety Data Sheets (MSDS), has established a list of Limited Shelf-Life (LSL) chemical names and chemical abstracts service numbers (CAS numbers) for chemicals which have been known to degrade, chemically change, react, off-gas, or undergo a hazardous polymerization within the container upon extended storage to produce an unstable or potentially hazardous intermediate. The purchase of limited shelf-life chemicals is done with the understanding that the materials must be disposed of prior to the expiration date.

Upon receipt of a purchased limited shelf-life chemical, each container will be labeled with a tag which identifies the container as an LSL chemical and is dated with an expiration date.

LSL chemicals, in addition to an expiration date label, are a part of the University chemical tracking system and are labeled with a barcode which tracks them throughout the life of the container.

Upon receipt of any LSI, an expiration date label will be affixed to the container with the date by which the container must be disposed of. Additionally, all primary chemical containers will be labeled with a barcode tag and tracked as part of the chemical inventory system. The chemical container will be identified as an LSL and the expiration date will be reflected on the chemical record.

The current Limited Shelf-Life (LSL) chemical list is based on peroxide hazard, storage, concentration, and polymerization hazard. Other limited shelf-life materials include compounds that have the potential for explosion upon contact with air or water or materials that may be shock-sensitive.

Limited Shelf-Life Chemicals to Discard After 1 Year

Chemical or Corrosive Gas	CAS Number	Hazard on Storage
Butyl Lithium, N-	109-72-8	Air/Water Reactive
Lithium Aluminum Hydride	16853-85-3	Air/Water Sensitive
Lithium Aluminum Hydride in Ether	16853-85-3	Moisture Sensitive
Lithium Tri-(Tert Butoxy) Aluminum Hydride	17476-04-9	Moisture Sensitive
Metal Hydrides	Generic	Air/Explosive
Methyl Magnesium Bromide	75-16-1	Air/Water Sensitive
Phenyl Magnesium Bromide	100-58-3	Air/Water Sensitive
Phosphorus Pentoxide	1314-56-3	Water Reactive
Phosphorus, Red	7723-14-0	Flammable/Explosive
Phosphorus, Tribomide	7789-60-8	Water Sensitive
Phosphorus, Trichloride	7719-12-2	Explosive
Potassium	7440-09-7	Air/Explosive
Potassium Borohydride	13762-51-1	Water Reactive
Sodium	7440-23-5	Air/Explosive
Sodium Perchlorate	7791-073	Moisture/Explosive

**Limited Shelf-Life Chemicals to Discard After 3 Years**

Chemical or Corrosive Gas	CAS Number	Hazard on Storage
Acetals	105-57-7	Peroxide
Acrylonitrile	107-13-1	Polymerizer
Bis(2-Methoxyethyl) Ether	111-96-6	Peroxide/Explosive
Butadiene, 1, 3	106-99-0	Peroxide/Polymerizer
Butyl Ether	142-96-1	Peroxide
Chloroprene	126-99-8	Peroxide/Polymerizer
Crown Ethers	Generic	Peroxide/Polymerizer
Cyclohexene	110-83-8	Peroxide
Cyclooctene, CIS	931-87-3	Peroxide
Decahydronaphthalene	91-17-8	Peroxide
Diacetylene Peroxide	110-22-2	Peroxide
Cyclopentadiene	542-92-7	Peroxide/Polymerizer
Diethoxyethane, 1, 2	629-14-1	Peroxide
Diethyl Ether	60-29-7	Peroxide
Diglyme (Diethylene Glycol Dimethylether)	1663-35-0	Peroxide
1-(Dimethylamino) Ethyl Methacrylate	2867-47-2	Polymerizer
Dimethoxyethane, 1, 1	534-15-6	Peroxide
Dioxane	123-91-1	Peroxide
2-Ethoxyethyl Ether	112-36-7	Peroxide/Explosive
Ethyl Ether	60-29-7	Peroxide
Furan	110-00-9	Peroxide
Hydrogen Peroxide	772-84-1	Peroxide
Isamyl Nitrite	110-46-3	Peroxide
Methyl Cyclopentane	96-37-7	Peroxide
Methyl Methacrylate, Monomer	80-63-6	Peroxide
Phenyl Lithium	591-51-5	Peroxide
Propyl Ether	111-43-3	Peroxide
Stryene, Stabilized	110-42-5	Peroxide/Polymerizer
Tetrafluoroethylene	116-14-3	Peroxide/Polymerizer
Tetrahydrofuran	109-99-9	Peroxide
Tetrahydronaphthalene	119-64-2	Peroxide/Polymerizer
Vinyl Acetylene	689-97-4	Peroxide/Polymerizer
Vinyl Chloride	75-01-4	Peroxide/Polymerizer
Vinyl Ethers	109-93-3	Peroxide/Polymerizer
Vinyl Pyridine	1337-81-1	Peroxide/Polymerizer

Limited Shelf-Life Chemicals to Discard After 5 Years

Chemical or Corrosive Gas	CAS Number	Hazard on Storage
Acrylic Acid	79-10-7	Polymerizer
Hydrazine	302-01-2	Explosive
Methyl Acrylonitrile	126-98-7	Polymerizer

References:

1. L. Bretherick, Handbook of Reactive Chemical Hazards, 1985
2. NCR Committee on Hazardous Substances, Prudent Practices for Disposal of Chemicals from Laboratories, 1983.