

Clark Environmental, Inc.
Hazardous Waste Services
Division

Client Pack - Lab Packing
Guidelines

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INTRODUCTION

Clark Environmental, Inc. (Clark) through its Hazardous Waste Services Division provides comprehensive management services for lab pack materials including the transportation and disposal of Client-Packed (" Client Pack ") materials.

This manual has been designed to provide the information and guidance needed to comply with regulatory requirements and CLARK acceptance procedures. Compliance with these regulations will insure that Client-Packed materials can be transported and disposed of in a safe, environmentally sound and economical manner.

REGULATIONS GOVERNING LAB PACKS

CLARK Client Packs must adhere to all regulations governing the safe and proper handling of hazardous materials. Packing of all materials must conform first to Department of Transportation (DOT) specifications found in Title 49 of the Code of Federal Regulations (CFR), Parts 172 and 173. The DOT provides a list of hazard classes for all regulated hazardous materials. The proper shipping name, hazard class and packing group to be used for hazardous materials are contained in section 101 of 49 CFR 172 (often cited as 49 CFR 172.101).

The Department of Transportation has provided a lab pack packaging exception which allows generic packaging of most hazardous materials by hazard class and chemical compatibility. Waste materials classed as class or division 3, 4.1, 4.2, 4.3, 5.1, 6.1, 8 or 9 are excepted from specification packaging requirements for combination packaging if packaged in accordance with 49 CFR 173.12.

APPROVALS

All Client Packs must be reviewed and approved by CLARK before they may be accepted for transport or disposal. A CLARK Generator Profile Document (GPD) must be completed for each lab pack shipment. Use of a generic GPD allows for the approval of the Lab Packs.

Complete Section I of the GPD with the generator/billing information and write the words "Lab Packs - See attached inventory lists" in the chemical composition part of Section III. Sign and date the GPD in Section IX and securely attach all inventory lists. See the information below for inventory list requirements.

Once your inventory list has been reviewed, it is not uncommon for some changes or clarification's to be requested by the technical services group. This can be handled by simply making the changes to the lab pack(s), correcting the inventory sheet and faxing the corrected sheet to CLARK.

A new GPD is required for each individual shipment of lab packs. Once material pertaining to a specific GPD has been shipped the GPD becomes inactive and cannot be used again.

Send completed GPD and all attachments to:

Technical Services - Approvals
Clark Environmental, Inc.
Hazardous Waste Services Division
4117 Bandy Blvd.
Fort Pierce, Florida 34981
Phone: 772-464-4884
Fax: 772-464-5566

A completed CLARK inventory list, or equivalent, describing all the materials contained in each lab pack, must accompany each lab pack GPD submitted to CLARK for review and approval. Each inventory list must contain the following information:

- ❖ Generator name
- ❖ Address
- ❖ City, State, Zip
- ❖ EPA ID Number
- ❖ Outer container's size and type
- ❖ DOT Shipping Name, Hazard Class and Packing Group
- ❖ Chemical name of each item with percentages listed for solutions and mixtures.
- ❖ Physical state of each chemical (ie solid, liquid, or gas)
- ❖ Number of containers
- ❖ Quantity of each chemical
- ❖ Each chemicals container size, (ie quart, gallon, gram)
- ❖ Applicable EPA waste codes
- ❖ Unique drum identification number

MANIFESTING

Unless handled by CLARK, all generator's will be required to complete all appropriate Hazardous Waste Manifests. All lab packs must be accompanied by a properly completed manifest with inventory lists and Land Ban Notification attached. In section J of the manifest, indicate the approval number, container size, and number of containers per line. In the space for Quantity, DO NOT indicate the outer drum size as quantity. List the total quantity of chemicals on the containers inventory list using liquid measurements for liquids (ie gallons or liters) and solid measurements for solids (ie pounds or kilograms).

HOW TO PACK LAB PACK CONTAINERS

Drums and pails must be packaged so that inside containers may be transported without risk of breakage.

First, evenly spread a 4" to 6" layer of absorbent material (vermiculite or perlite) on the drum or pail bottom. Next, place in the drum or pail a single layer of containers, leaving at least 2" of absorbent between containers and the drum wall. Cover the inside containers with 2" to 3" of absorbent material.

To fill the drum or pail, alternate layers of containers and absorbent. Top off the lab pack container with a final 4" to 6" layer of absorbent material. Sufficient absorbent must be added to contain all the liquid contents should breakage or leakage occur.

Secure the cover and attach all appropriate labels (DOT, Hazardous Label, This End Up, etc. . .). Attach a packing slip holder with enclosed inventory list to the outside of the drum.

GENERAL PACKING SPECIFICATIONS

General packaging specifications apply to all materials except those identified as needing "Special Handling" listed below and listed on the attachments "Technically Reactive or Require Special Packaging" or "Chemical Limitations List". Materials must be segregated, packaged and labeled according to DOT, RCRA as well as in accordance with CLARK guidelines.

CLARK's specifications allow for the packaging of materials in drum sizes of 5 gallons to 55 gallons in the quantities listed below. All limitations in these guidelines are on the actual compounds being packaged.

Lab Pack Packing Limits

DRUM SIZE	MAX. WEIGHT	FREE LIQUIDS	MAX. INNER CONTAINERS	MAX VOL. OXIDIZERS	MAX. VOL. REACTIVES
5 DM/DF	10 Lbs.	1 Gal.	10	5 Lbs.	3 Lbs.
20 DM/DF	35 Lbs.	6 Gal.	45	20 Lbs.	N/A
30 DM/DF	60 Lbs.	10 Gal.	65	35 Lbs.	N/A
55 DM/DF	110 Lbs.	15 Gal.	120	65 Lbs.	N/A

NOTE: Fiber drums must have a metal ring on the bottom

All inside containers must be packaged in a DOT approved container for that waste material. The smallest allowable container is 15ml. or 3/8" diameter. Multiple containers less than 15ml or 3/8" are acceptable if bagged or overpacked into a larger container. The largest allowable inside container is five gallons.

- ❖ Spill clean-ups, typically including debris such as broken glass, splintered wood and other sharp edge objects, must be packaged in hard sided containers (no plastic bags). These inside containers should be lab packed into DOT specification containers, with up to 55 gallon capacity, as required by safety and regulatory compliance. Specify the size of the debris material on the inventory sheet.
- ❖ All interior containers must be securely closed. If this is impossible, contents must be emptied into or placed within a leak proof bottle or can prior to packing.
- ❖ All interior containers must have their chemical name, including percentages for mixtures or solutions, legibly printed on each container or attached label.
- ❖ Solid materials should be packed separately from liquid materials.
- ❖ Inorganic poisons should be packed separately from organic poisons.
- ❖ Reactives should be packed separately from non-reactives.

TECHNICAL SPECIFICATIONS - SPECIAL HANDLING

This section addresses materials which require special packing and handling due to health and safety concerns, or permit and environmental issues.

Organic Peroxides

Organic Peroxides are acceptable when packaged in DOT specification overpacks approved for the specific materials contained. The Hazardous Materials Table must be consulted along with 49 CFR 173.225, whenever organic peroxides are to be packaged to ensure compliance with shipping regulations. Maximum inside container content per CLARK guidelines is 2 pounds or 1 gal. with a one container limit per lab pack.

The diluent and its concentration, along with the concentration of the organic peroxide must be listed on the inventory list. A list of the recommended diluents is contained as attachment G.

Methyl Ethyl Ketone must contain <9% active oxygen.
Peroxyacetic acid is acceptable in 5% solutions only.

Organic peroxides with a Self Acceleration Decomposition Temperature (S.A.D.T.) 122°F may be accepted on a case-by-case basis, but will require refrigeration if acceptable. An MSDS must be furnished which lists the S.A.D.T..

NOTE: All peroxides should be stabilized and free of crystal formation.

Asbestos

This waste must be double bagged and this must be indicated on the inventory list. Acceptable in 5 gallon maximum inner containers or less, but must be separate from other materials. Many common materials contain asbestos, such as cement, tars or asphalt. If these waste do not contain asbestos, please state this on the contents sheet.

Odoriferous Materials (Mercaptans, Thiols...)

Odoriferous materials must be packaged in sealed "zip-lock" type or airtight, taped, 2 mil poly bags. The airtight bags must be packed in dry or odor absorbing material with a maximum inner container of 1 gallon in a 5-or 20-gallon poly or fiber drum.

CLARK operations reserves the right to reject odoriferous material and subject each to a case by case review.

Controlled Substances

Controlled drugs are not acceptable unless specific CLARK/DEA protocol is followed.

Oxidizers

CLARK requires that materials be packaged according to DOT guidelines found in 49 CFR 173.152. Inorganic and organic oxidizers must be packaged separately. Exceptions to the DOT guidelines are listed below, along with the references for their specific packaging requirements

* Bromine Pentafluoride	49 CFR 173.228
* Bromine Trifluoride	49 CFR 173.228
* Chloric Acid	49 CFR 173.229
* Chlorine Trifluoride	49 CFR 173.304
* Nitric Acid, Fuming	49 CFR 173.227

Reactive Materials

Materials classified as reactive include water reactive, pyrophoric, and explosive. Listed below are the general categories of reactives. Attachment D is a list of common reactive materials and Attachment F is a list of common Grignard Reagents.

* Alkali Metal	* Non-Alkali Metal
* Metal Hydroxides	* Non-Metal Hydroxides
* Metal Halides	* Acid Halides
* Acid Anhydrides	* Metal Alkyls
* Grignard Reagents	* Carbides
* Metal Powders	* Nitrides
* Cyanides	* Perchlorates
* Ethers	

Reactive materials are generally approved for packing in 5 gallon containers with a maximum of three pounds per pail. Reactives should be packaged separately from non-reactives.

Ethers, Dioxane, Tetrahydrofurans

These compounds must be checked for peroxide formation (if applicable) and the results noted on the inventory list.

Gas Cylinders

All pressurized cylinders must be accompanied by a completed CLARK "Addendum for Cylinders". A copy of this form is located in Attachment H.

Characterized Unknowns

Unknown materials are acceptable if they have been properly characterized. A completed CLARK "Haz-Cat Scan Drum Inventory" form must accompany the packing inventory. A copy of this form is located in Attachment H.

Biology / Research Lab Specimens

Includes animals such as fetal pigs, frogs, fish, etc. These may be accepted if non-infectious and submerged in a suitable preservative, disinfectant, or vacuum sealed bag. Please certify "non-infectious" when profiling this type of waste.

Mineral Acids

Hydrochloric, Nitric, Sulfuric, Phosphoric and Chromic acid must be packaged separately from organic acids and other organics. They should not be packaged with other materials and must have the concentration listed on the inventory list.

Self Reactive Material

Self-Reactive Material listed on table 49CFR 173.224 require refrigeration (mechanical or dry ice) if a controlled temperature is listed.

Separate Profiles

Mercury, Temperature Controlled Material and Controlled substances are required to be approved and shipped on separate GPD's from other lab packs.

UNACCEPTABLE MATERIALS LIST

The following materials are acceptable by CLARK for disposal only on a case by case basis, and only with prior written approval from CLARK.

- ❖ No broken, mislabeled, or unlabeled containers are acceptable.
- ❖ Regulated radioactive materials.
- ❖ All chemicals beyond Astatine (#85) on the periodic table.
- ❖ Dioxin bearing waste (Contact CLARK for special handling).
- ❖ Pathological, etiological or infectious waste.
- ❖ Explosives or shock sensitive materials (Contact CLARK for special handling).
- ❖ Materials classified "forbidden" by the Department of Transportation, 49CFR,
 - ❖ Part 172.101
- ❖ Picric Acid or Trinitrophenol must be wetted with water or an appropriate
 - ❖ solvent to 30% concentration. There is a one gallon maximum per container.
- ❖ Other nitrogen based functional groups that are considered explosive or
 - ❖ temperature sensitive include azos, diazos, diazas, and organic azides.
 - o Temperature sensitive azos are acceptable on a case by case basis. See table 173.224(b) for examples of these types of materials. This list is not all inclusive.
 - ❖ Non temperature sensitive azos must be diluted in solvent to 20%.
 - o Maximum of 1 gallon of this solution per container.
 - o Any compounds that contain two or more nitrogen based functional groups (nitrate, nitroso, azo, diazo, etc) are acceptable on a case by case basis, ie. diazotriazole, dinitrodiazomethane, diazoacetylazide.
- ❖ Hazardous Waste packaged in or labeled with biohazard markings.
- ❖ All unknown suspected herbicides must be screened for dioxin in accordance
 - ❖ with SW 846 method 8280

ATTACHMENT A

WASTE CODES REQUIRING SPECIAL CONSIDERATIONS

Contact CLARK for instructions on how to package these materials

F020	K027	K073	K116	P112
F021	K028	K083	K117	P114
F022	K029	K084	K118	P119
F023	K030	K085	K123	
F024	K031	K087	K124	U225
F025	K032	K088	K125	U390
F026	K033	K090	K126	
F027	K034	K091	K131	
F028	K035	K093	K132	
F037	K036	K094	K136	
F038	K037	K095		
F039	K038	K096	P009	
	K039	K097	P026	
K001	K040	K098	P036	
K009	K041	K099	P038	
K010	K042	K100	P056	
K011	K043	K101	P062	
K013	K044	K102	P063	
K014	K045	K103	P064	
K015	K046	K104	P065	
K016	K047	K105	P066	
K017	K048	K106	P070	
K018	K049	K107	P072	
K019	K050	K108	P073	
K020	K051	K109	P076	
K021	K052	K110	P078	
K022	K060	K111	P081	
K023	K064	K112	P095	
K024	K065	K113	P096	
K025	K066	K114	P103	
K026	K071	K115	P110	

ATTACHMENT B

WASTE CODES THAT MUST BE LABELED FOR INCINERATION

D001*	P030	P115	U058	U147
D002**	P031	P116	U059	U148
D003***	P033	P118	U061	U149
D012	P034	P120	U062	U150
D013	P040	P121	U066	U153
D014	P041	P122	U067	U155
D015	P042		U068	U156
D016	P046	U003	U070	U157
D017	P047	U005	U072	U160
D020	P049	U007	U073	U162
D031	P050	U008	U074	U163
D037	P054	U010	U075	U164
D041	P057	U011	U080	U165
D042	P058	U014	U091	U167
	P059	U015	U092	U168
F005****	P067	U017	U093	U170
	P068	U020	U095	U171
P001	P069	U021	U096	U173
P002	P071	U022	U097	U174
P004	P074	U025	U103	U176
P005	P075	U026	U109	U177
P006	P077	U029	U110	U178
P007	P082	U033	U111	U179
P008	P084	U034	U114	U180
P013	P087	U035	U115	U182
P014	P088	U036	U116	U184
P015	P093	U038	U119	U185
P016	P097	U039	U121	U186
P017	P099	U041	U128	U187
P018	P101	U042	U129	U189
P021	P104	U045	U130	U190
P022	P105	U046	U131	U191
P023	P106	U047	U132	U192
P024	P108	U049	U136	U193
P027	P109	U050	U138	U194
P028	P111	U055	U139	U197
P029	P113	U057	U143	U200
U201	U214	U219	U236	U246
U202	U215	U220	U237	U248
U204	U216	U222	U238	U249
U206	U217	U223	U240	
U210	U218	U234	U244	

- * ignitable liquid resins, mercaptans, thiols, organic sulfides
- ** organic acid chlorides
- *** organic peroxides
- **** 2-nitropropane
2-ethoxyethanol

ATTACHMENT C

UNACCEPTABLE CHEMICALS LIST

NOTE: This list is not all inclusive. All lab pack materials will be evaluated on a case-by-case basis.

2, 4-Dinitroresorcinol
1, 1, 1-Trinitrooxymethylethane
1, 3, 5, 7-Tetraazocyclooctane
1, 3, 5-Triazido-2, 4, 6-trinitrobenzene
1, 3, 5-Trinitrobenzene
1-(5-Tetrazilyl)-4-guanyltetrazene hydrate
2, 4, 6-Trinitrophenol
2, 4, 6-Trinitrophenylmethylnitramine
2, 4, 6-Trinitrotoluene

A

Acetyl benzoyl peroxide
Acetylides of heavy metals
Ammonium nitrate
Ammonium perchlorate
Ammonium picrate
Ammonium salt lattice

B

Black Powder [incl. mixtures]
Butanetriol trinitrate
Butoxycarbonyl azide
Butyl tetryl

C

Chromium hexacarbonyl
Copper acetylide
Cyanuric triazide
Cyclotrimethylenetrinitramine
Cyclotetramethylenetetranitramine
Cyclotol

D

Diazodinitrophenol
Diethylene glycol dinitrate
Diglyceryl tetranitrate
Dimethylol dimethyl methane dinitrate composition
Dinitrobenzene, O-isomer
Dinitrodiglycol
Dinitroresorcinol
Dinitroethyleneurea
Dinitroglycerine
Dinitrophenol
Dinitrophenolates
Dinitrophenyl hydrazine
Dinitroresorcinol
Dinol
Dinitrotoluene
Dioxin
Dipenta
Dipentaerythritol hexanitrate
Dipicryl sulfide
Dipicryl sulfone
Dipicrylamine
Dyanamite

E

Ednatol
Erytliritol tetranitrate
Esters of nitro-substituted alcohols
Ethyl-tetryl

F

Fulminate of mercury
Fulminate of silver
Fulminating gold
Fulminating mercury
Fulminating platinum
Fulminating silver

G

Gelatinized nitrocellulose
Gem-dinitro aliphatic explosive mixtures
Guanyl nitrosamino guanyl tetrazene
Guanyl nitrosamino guanylidene hydrazine

H

Heavy metal azides
Hexanite
Hexanitrodiphenylamine
Hexanitrodiphenylsulfide
Hexanitrostilbene
Hexogene
Hexolites
Hydrazinium nitrate
Hydrazoic acid

L

Lead azide
Lead mannite
Lead mononitroresorcinate
Lead picrate
Lead salts, explosive
Lead styphnate [styphnate of lead, lead trinitroresorcinate]
Liquid nitrated polyol and trimethylolethane

M

Magnesium ophorite explosives
Mannitol hexanitrate
Mercuric fulminate
Mercury oxalate
Mercury tartrate
Mononitrotoluene
Monopropellants

N

Nitrated carbohydrates
Nitrated glucoside
Nitrated polyhydric alcohol
Nitrocellulose [dry]
Nitrogen trichloride
Nitrogen tri-iodide
Nitroglycerin [NG, RNG, nitro, glyceryl trinitrate, trinitroglycerine]
Nitroglycide
Nitroglycol [ethylene glycol dinitrate, EGDN]
Nitroguanidine
Nitroparaffins
Nitronium perchlorate
Nitrostarch

Nitrosoguanidine
Nitrourea

O

Organic amine nitrates
Organic nitramines

P

Pentachlorophenol [approved case-by-case basis]
Pentolite
Picramic acid and its salts
Picramide
Picratol
Picric Acid [dry]
Picryl chloride
Picryl fluoride
Potassium carbonyl
Potassium nitroaminotetrazole

S

Silver acetylde
Silver azide
Silver fulminate
Silver styphnate
Silver tetrazene
Silvex
Sodatol
Sodium amatol
Sodium dinitro-ortho-cresolate
Sodium picramate
Squibs
Styphnic acid

T

Tetrachlorophenol
Tetrazine
Tetranitrocarbazole
Tetrytol
Torpex
Trichlorophenol
Tridite
Trimethylolthane
Trimonite
Trinitroanisole
Trinitrobenzene
Trinitrobenzoic acid
Trinitrocresol
Trinitro-meta-cresol
Trinitronaphthalene
Trinitrophenetol
Trinitrophioroglucinol
Trinitroresorcinol
Tritonol

U

Urea nitrate

ATTACHMENT D

TECHNICALLY REACTIVE OR REQUIRE SPECIAL PACKAGING

NOTE: This list is not all inclusive. All lab pack materials will be evaluated on a case-by-case basis.

A

Acetal
Acetaldehyde
Acetone cyanohydrin
Acetyl bromide
Acetyl iodide
Acrylate monomers
Acrylic acid
Aerозine
Aflatoxins
Allyl bromide
Allyl chloride
Allyl chlorocarbonate
Allyl isocyanate
Aluminum alkyl
Aluminum borohydride
aluminum bromide
Aluminum calcium hydride
Aluminum carbide
Aluminum chloride (Anhydrous)
Aluminum fluoride
Aluminum hydride
Aluminum iodide
Aluminum sulfide
Anisoyl chloride
Antimony pentachloride
Anthrany pentafluoride
Antimony pentasulfide
Antimony tribromide
Antimony trichloride
Antimony trifluoride
Antimony trisulfide
Arsenic trichloride
Arsenic trifluoride
Ascaridole (1, 4-peroxido-p-menthene-2)
Azeloyl Chloride

B

Benzenephosphorousdichloride
Benzotrifluoride
Benzoyl chloride
Benzoyl fluoride
Benzoyl peroxide
Benzyl bromide
Benzyl chloroformate
Benzyl fluoride
Benzyl trichlorosilane
bis (2-Chloroisopropyl)ether-1
bis (1-Hydroxycyclohexyl)peroxide
bis (Hydroxyethyl) butynediol ether
Bismuth trichloride
Bismuth ethyl chloride
bis (Trichlorosilyl) ethane
Boron powder
Boron phosphide
Boron tribromide
Boron trichloride

Boron tetrahydrofuran
Boron trifluoride
Bromine chloride
Bromine pentafluoride
Bromine trifluoride
Bromotri fluoroethylene
Butyl ether (unstabilized)
t-Butylhydroperoxide (wet)
t-butylisopropyl benzene hydroperoxide (wet)
Butyllithium
n-Butylmagnesium chloride
t-Butyl peroxyacetate (wet)
t-Butyl peroxybenzoate (wet)
t-Butyl peroxy -2 -ethylhexanoate
t-Butyl peroxyisobutyrate
t-Butylperoxy isopropyl carbonate
t-Butyl peroxy maleic acid
t-Butyl peroxyphthalic acid
t-Butyl peroxy pivalate
n-Butyltin trichloride
n-Butyltrichlorosilane
n-Butyl vinyl ether
Butynediol
Butyryl chloride

C

Calcium metal
Calcium cyanamide
Calcium hydride
Calcium peroxide
Calcium phosphide
Calcium silicide
Caprylyl peroxide
Carbamide peroxide
Carbon oxybromide (bromophosgene)
Carbon oxychloride (Phosgene)
Carbonyl cyanide
Cerium metal
Cesium metal
Cesium peroxide
Cesium phosphide
Chlorine trifluoride
Chloroacetyl chloride
Chloroacrolein
Chlorobenzoyl chloride
Chlorobenzyl chloride
Chlorophenyl trichlorosilane
B-Chloroethylchloroformate
B-Chloroethyl chlorosulfonate
B-Chloroprene (uninhibited monomer)
p-Chlorobenzoyl peroxide
Cetyl vinyl ether
Chloropentafluoroacetone
chlorophenyltrichlorosilane
2-Chloroprene (uninhibited monomer)
4-Chlorosulfonylbenzoic acid
Cobaltous resinate (Cobalt abietate)
Collodian (Nitrocellulose Solutio)
Copper phosphide
Cumene hydroperoxide
Cyclohexanone peroxide
Cyclohexenyl trichlorosilane
Cyclohexyl chloride

Cyclohexyl trichlorosilane
cyclopentylpropionyl chloride

D

Decyl vinyl ether
Diacetone alcohol
Diborane
Dibromodiethyl sulfide
Dibromomalonyl chloride
Dibromoformoxime
Dibromomethyl ether
di-t-Butyl diperoxyphthalate
di-t-Butyl peroxide
2, 5-di-t-Butylquinone
Dichloroacetyl chloride
Dichloroacetylene
Dichlorodiethyl sulfide
Dichloroisocyanuric acid
Dichloromethylsilane
Diethyl aluminum chloride
Diethyldichlorosilane
Diiodoacetylene
Diisopropyl peroxydicarbonate
2, 5-Dimethyl-2, 5-di (t-butylperoxy) hexane
Dimethyldichlorosilane
Dimethyl ether (unstabilized)
2, 5-Dimethylhexane-2, 5-diperoxybenzoate
Diphenyldichlorosilane
Divinylbenzene (uninhibited)
Divinyl sulfide
Dodecyltrichlorosilane

E

Ethyl acrylate (uninhibited)
Ethyl benzyl chloride
Ethyl-n-butyl ether
Ethyl chlorosulfonate
Ethyl dichlorosilane
Ethyl ether (unstabilized)
2-Ethylhexyl magnesium chloride (Grignard)
Ethylmagnesium bromide
Ethylmagnesium chloride
ethyl phenyl dichlorosilane
Ethyltrichlorosilane

F

Ferrous phosphide
Ferrosilicone
Fluoboric acid
Fluosulfonic acid
Fumaryl chloride
Fyroyl chloride

G

Glyoxal

H

Heptaf luorobutyric acid
Heptanoyl chloride
Hexadecyltrichlorosilane
Hexachloromethylcarbonate
Hexacyclotrichlorosilane
1, 4-Hexadiene (uninhibited)

Hexafluorophosphoric acid
Hexamethyldisilazane
Hexanoyl chloride
Hexyltrichlorosilane
Hydroxylamine (Do not confuse with Hydroxylamine hydrochloride)

I

Iodine monobromide
Iodine monochloride
Iodine pentafluoride
Iron pentacarbonyl
Iso-butyryl chloride
iso-propyl ether (unstabilized)
Isovaleryl chloride

L

Lauroyl chloride
Lauroyl peroxide
Lithium-Lithium acetylide-Ethylene diamine complex
Lithium aluminum deuteride
Lithium aluminum hydride
Lithium aluminum hydride ethereal
Lithium aluminum tri-tert butoxyhydride
Lithium amide
Lithium azide
Lithium borohydride
Lithium ferrosilicone
Lithium hydride
Lithium methoxide (Methylate)
Lithium nitride
Lithium peroxide
Lithium silicon

M

Magnesium
Magnesium amide
Magnesium aluminum phosphide
Magnesium azide
Magnesium dioxide (Peroxide)
Magnesium silicide
Manganese powder
Manganese bronze powder
Menthane-8-hydroperoxide
Mesitylenesulfonyl chloride
Methacrolein
Methacrylic acid (uninhibited)
Methacryloyl chloride
Methanesulfonyl chloride
Methyl acrylate (uninhibited)
Methylal
Methylallyl chloride
Methylaluminum sesquibromide
Methylaluminum sesquichloride
Methylchloroformate
Methyl chloromethyl ether
Methyl chlorosilane
Methyl chlorosulfonate
Methyldichlorosilane
Methyl ethyl ketone peroxide
Methyl fluorosulfonate
Methyl heptyne carbonate
Methyl lithium
Methylmagnesium bromide
Methylmagnesium chloride

Methylmagnesium iodide
Methyl methacrylate (uninhibited)
Methyl-1-pentyn-3 -ol
Methyl phenyldichlorosilane
Methyl sulfonyl chloride
Methyltrichlorosilane
Methylvinylidichlorosilane
Molybdenum hexacarbonyl
Molybdenum hexafluoride
Myristoyl peroxide

N

Na k alloy
Niobium chloride
Nitric acid fuming
Nitrobenzoyl chloride
Nitrocellulose (solutions only)
Nitromethane
Nonyltrichlorosilane
octadecyltrichlorosilane
Octanoyl chloride
Octyl peroxide
Octyl trichlorosilane

P

Pelargonyl chloride
Pelargonyl peroxide
Peracetic acid
Phenylacetyl chloride
Phenyllithium
Phenylmagnesium bromide
Phenylmagnesium chloride
Phenylphosphine
Phenyltrichlorosilane
Phosphorous
Phosphorous heptasulfide
Phosphorous nitride
Phosphorous oxybromide
Phosphorous oxychloride
Phosphorous pentachloride
Phosphorous pentabromide
Phosphorous pentafluoride
Phosphorous pentasulfide
Phosphorous pentoxide
Phosphorous sesquisulfide
Phosphorous tribromide
Phosphorous triiodide
Phthaloyl chloride
Platinum powder
Platinum lithium alloy
Potassium borohydride
Potassium t-Butylate
potassium hydride
Potassium peroxide
Potassium sulfide
Propargyl alcohol
Propargyl bromide
Propargyl chloride
Propionoyl chloride
Propionyl peroxide
Propylmagnesium bromide
Propyltrichlorosilane
Pyridinium chromate
Pyrosulfuryl chloride

R

Raney nickel
Reagent Powder Pillows
Rhodanine
Rubidium

S

Sodium aluminum hydride
Sodium amide
Sodium azide
Sodium borohydride
Sodium hydride
Sodium phosphide
Sodium potassium alloy
Sodium sulfide
Stannic chloride
Stannic bromide
Stannic phosphide
Styrene monomer (uninhibited)
Succinic acid peroxide
Sulfuryl fluoride

T

Thionyl chloride
Thiophosphoryl chloride
Titanium hydride
Titanium isopropoxide
Titanium peroxide
Toluene diisocyanate (uninhibited)
p or O-Toluenesulfonyl chloride
Tosyl chloride
Trichloroacetyl chloride
Trichloromethyl chloroformate
Trichloromethylsulfenyl chloride
Trichlorosilane
1 Triethylaluminum
Triethylborane
Triethyl borate
tri-n-Hexylaluminum
tri-isobutylaluminum
Trimethyl borate
Trimethylchlorosilane
tri-n-propyl aluminum
Tungsten oxychloride

U

Urea peroxide

V

Vinyl-2-chloroethyl ether
Vinyl ether
Vinyl ethyl ether
Vinyl magnesium chloride
Vinyl methyl ether
Vinyl trichlorosilane

Z

Zinc peroxide
Zirconium carbide
Zirconium hydride
Zirconyl chloride

Vials or other containers <15 ml. or <3/8" in diameter
Reagent Powder Pillows

ATTACHMENT E**LIST OF CHEMICAL PACKAGING LIMITATIONS**

CHEMICAL NAME	HAZARD	LIMIT#
A		
Allyl chlorosilane	Corr.	5
Aluminum chlorate	Oxidizer	5
Aluminum isopropoxide	Fl.solid	5
Aluminum, metallic, powder	Fl.solid	10
Aluminum nitrate	Oxidizer	10
Aluminum phosphide	Fl.solid	5
Ammonium chromate	Oxidizer	5
Ammonium dichromate	Oxidizer	5
Ammonium fluoride	Poison	10
Ammonium hydrogen fluoride	Corr.	10
Ammonium nitrate	Oxidizer	2
Ammonium nitrate-carbonate mixture	Oxidizer	5
Ammonium nitrate fertilizer (<2% carbon)	Oxidizer	5
Ammonium nitrate mixed fertilizer	Oxidizer	5
Ammonium nitrate (no organic coating)	Oxidizer	2
Ammonium nitrate-phosphate	Oxidizer	5
Ammonium nitrate solution (>25% water)	Oxidizer	5
Ammonium perchlorate	Oxidizer	1
Ammonium permanganate	Oxidizer	5
Ammonium persulfate	Oxidizer	5
Ammonium sulfide	Corr. P.	5
Ammonium hydrosulfide	Corr. P.	10
Amyl mercaptan	Fl.liquid	2
Amyl nitrate	Oxidizer	1
Amyl trichlorosilane	Corr.	5
Antimony sulfide	Poison	5
Arsenic sulfide	Poison	2
B		
Barium azide,>50% water	FL.solid	1
Barium chlorate	Oxidizer	2
Barium cyanide	Poison	10
Barium dioxide	Oxidizer	10
Barium nitrate	Oxidizer	10
Barium perchlorate	Oxidizer	1
Barium permanganate	Oxidizer	10
Barium peroxide	Oxidizer	10
Beryllium nitrate	Oxidizer	10
Bismuth nitrate	Oxidizer	10
n-Butyl isocyanate	Fl.liquid	10
Butyl mercaptan	Fl.liquid	1
t-Butyl ammonium periodate	Oxidizer	2
t-Butyl nitrate	Oxidizer	1
C		
Cadium chlorate	Oxidizer	2
Cadmium nitrate	Oxidizer	5
Calcium carbide	Fl.solid	2
Calcium chlorate	Oxidizer	2
Calcium chlorite	Oxidizer	5
Calcium cyanide	Poison	10
Calcium hypochlorite,hydrated(>5% but <10% water, with >39% avail. chlorine)	Oxidizer	10
Calcium hypochlorite mixture,dry (>39% available chlorine)	Oxidizer	5
Calcium nitrate	Oxidizer	5
Calcium nitrite	Oxidizer	10

Calcium perchlorate	Oxidizer	1
Calcium permanganate	Oxidizer	10
Calcium peroxide	Oxidizer	10
Calcium silicon	Fl.solid	5
Ceric ammonium nitrate	Oxidizer	10
Cerous nitrate	Oxidizer	10
Chlorate and borate mixture (containing >28% chlorate)	Oxidizer	2
Chlorate and magnesium chloride mix. (containing >28% chlorate)	Oxidizer	2
Chlorate,n.o.s., wet	Oxidizer	2
Chlorine trifluoride	Oxidizer	1
Chromic acid mixture, dry	Oxidizer	5
Chromic acid, solid	Oxidizer	5
Chromic nitrate	Oxidizer	5
Chromium perchlorate	Oxidizer	1
Chromium trioxide	Oxidizer	5
Cobalt nitrate	Oxidizer	10
Cobalt perchlorate	Oxidizer	1
Copper cyanide	Poison	10
Cupric fluoborate	Oxidizer	2
Cupric nitrate	Oxidizer	10
Cyanogen bromide	Poison	1
D		
Dichloroisopropyl ether	Corr.	5
Dichlorophenyl Trichlorosilane	Corr.	5
Di iso-propyl ether	Fl.liquid	2
Dimethyl hydrazine,unsym.	Fl.liquid	1
Dimethyl sulfide	Fl.liquid	2
Dinitrophenyl hydrazine	Poison	100gms
Divinyl ether	Fl.liquid	2
E		
Ethyl borate	Fl.liquid	5
Ethyl hexyl nitrate	Oxidizer	2
Ethyl methyl ether	Fl.liquid	5
Ethyl nitrate	Fl.liquid	5
F		
Ferric nitrate	Oxidizer	5
Ferric perchlorate	Oxidizer	1
G		
Guanidine nitrate,<10% soln.	Oxidizer	5
H		
Hexadecyl trichlorosilane	Corr.	10
Hydrazine,anhydrous	Fl.liquiud	1
Hydrazine,<50% aq. soln.	Corr.	10
Hydrogen peroxide soln. (40-50%)	Oxidizer	2
Hydrogen peroxide soln. (25-40%)	Oxidizer	2
Hydrogen peroxide soln. (8-25%)	Oxidizer	5
I		
Iodine pentachloride	Oxidizer	1
Iso-amyl nitrate	Oxidizer	2
L		
Lanthanum nitrate	Oxidizer	10
Lead cyanide	Poison	5
Lead dioxide	Oxidizer	5
Lead nitrate	Oxidizer	5

Lead nitrite	Oxidizer	5
Lead perchlorate	Oxidizer	1
Lead peroxide	Oxidizer	5
Lithium chlorate	Oxidizer	2
Lithium hypochlorite compound, dry (>39% available chlorine)	Oxidizer	5
Lithium metal	Fl.solid	5
Lithium nitrate	Oxidizer	10

M

Magnesium chlorate	Oxidizer	5
Magnesium nitrate	Oxidizer	10
Magnesium perchlorate	Oxidizer	1
Magnesium permanganate	Oxidizer	10
Manganese nitrate	Oxidizer	10
Manganese peroxide	Oxidizer	10
Methyl chloromethyl ether	Fl.liquid	5
Methyl cyanide	Fl.liquid	10
Methyl ethyl ether	Fl.liquid	5
Methyl hydrazine	Fl.liquid	2
Methyl iso-cyanate	Fl.liquid	5
Methyl phosphonic dichloride	Corr.	10
Methyl phosphonous dichloride	Fl.liquid	5
Methyl sulfide	Fl.liquid	2

N

Nickel carbonyl	Fl.liquid	250gms.
Nickel cyanide	Poison	10
Nickel nitrate	Oxidizer	10
Nitric ether	Fl.liquid	5
Nitroguanidine, <10% soln.	Fl.liquid	5

P

Pentaborane	Fl.liquid	1
Perchloric acid (>50%, but <72%)	Oxidizer	1
Perchloric acid (<50%)	Oxidizer	2
Perchloric acid (<25%)	Oxidizer	5
Perchloric acid, (<72%)	Oxidizer	2
Periodic acid	Oxidizer	1
Phospho molybdic acid	Oxidizer	10
Phosphoric anhydride	Corr.	10
Phospho tungstic acid	Oxidizer	10
Phosphorous trichloride	Corr.	5
Phosphorous trisulfide	Fl.solid	5
Phosphoryl chloride	Corr.	5
Picric acid, <1% aq. soln.	Fl.solid	10
Potassium bromate	Oxidizer	10
Potassium chlorate	Oxidizer	5
Potassium chlorite	Oxidizer	10
Potassium cyanide	Poison	10
Potassium di-chloro-s-triazinetriene, dry (<39% available chlorine)	Oxidizer	5
Potassium chromate	Oxidizer	10
Potassium dichromate	Oxidizer	10
Potassium iodate	Oxidizer	5
Potassium metal	Fl.solid	5
Potassium, metal liq. alloy	Fl.liquid	5
Potassium nitrate	Oxidizer	10
Potassium nitrite	Oxidizer	10
Potassium perchlorate	Oxidizer	1
Potassium periodate	Oxidizer	5
Potassium permanganate	Oxidizer	10
Potassium persulfate	Oxidizer	10

Potassium peroxy mono-persulfate	Oxidizer	5
Potassium pyrosulfate	Oxidizer	5
Potassium sulfate perchlorate	Oxidizer	5
Potassium superoxide	Oxidizer	5
n-Propyl nitrate	Oxidizer	1

S

Selenium nitrate	Oxidizer	1
Silicon chloride	Corr.	10
Silicon tetrachloride	Corr.	10
Silver cyanide	Poison	1
Silver nitrite	Oxidizer	5
Sodium bifluoride	Corr.	5
Sodium bromate	Oxidizer	5
Sodium chlorate	Oxidizer	5
Sodium chlorite	Oxidizer	10
Sodium chromate	Oxidizer	10
Sodium cyanide	Poison	10
Sodium dichloro-s-triazinetriene, dry (>39% available chlorine)	Oxidizer	1
Sodium dichromate	Oxidizer	10
Sodium fluoride	ORM	5
Sodium hydrosulfide	Fl.solid	5
Sodium hydrosulfite	Oxidizer	10
Sodium hypochlorite	Oxidizer	10
Sodium iodate	Oxidizer	5
Sodium metal	Fl.solid	5
Sodium metal liquid alloy	Fl.solid	5
Sodium meta-periodate	Oxidizer	5
Sodium methylate	Fl.solid	5
Sodium monoxide	Corr.	10
Sodium nitrate	Oxidizer	5
Sodium nitrite	Oxidizer	10
Sodium perborate	Oxidizer	10
Sodium perchlorate	Oxidizer	1
Sodium periodate	Oxidizer	5
Sodium permanganate	Oxidizer	10
Sodium peroxide	Oxidizer	5
Sodium persulfate	Oxidizer	10
Sodium superoxide	Oxidizer	5
Strontium chlorate	Oxidizer	5
Strontium nitrate	Oxidizer	10
Strontium nitrite	Oxidizer	10
Strontium perchlorate	Oxidizer	1
Strontium peroxide	Oxidizer	5
Sulfur mono-chloride	Corr.	2
Sulfur di-chloride	Corr.	2
Suluryl chloride	Corr.	2

T

Tetranitro methane (>25%-50%)	Oxidizer	2
Tetranitro methane (>25%)	Oxidizer	5
Tin chloride, fuming	Corr.	10
Tin tetrachloride	Corr.	10
Titanium nitrate	Oxidizer	10
Titanium tetrachloride	Corr.	10
Trichloro iso-cyanuric acid	Oxidizer	5
Trichloro-s-triazinetriene (>39% available chlorine)	Oxidizer	1
Tri iso-propyl borate	Oxidizer	10
Trinitrobenzene, (<5% soln.)	Fl.liquid	10
Trinitrotoluene, (5% soln.)	Fl.liquid	10

V

Vanadium oxy-trichloride	Corr.	10
Vanadium tetrachloride	Corr.	10
Vinyl iso-butyl ether	Fl.liquid	5

Z

Zinc ammonium nitrate	Oxidizer	5
Zinc chlorate	Oxidizer	5
Zinc chromate	Oxidizer	10
Zinc cyanide	Poison	10
Zinc nitrate	Oxidizer	10
Zinc perchlorate	Oxidizer	10
Zinc permanganate	Oxidizer	10
Zinc phosphide	Poison	5
Zirconium nitrate	Oxidizer	10
Zirconium oxy-nitrate	Oxidizer	10
Zirconium tetrachloride	Corr.	10

ATTACHMENT F

LIST OF COMMON GRIGNARD REAGENTS

GRIGNARD REAGENTS are of the general formula:

RMGX

where R = AKYL, ARYL, or other organic group

AND

X = Bromine, Chlorine, Fluorine, OR Iodine.

They are prepared and used as solutions of varying concentrations in any one of a number of ethers. Please note that the following listing includes only the organic magnesium compounds themselves, and DOES NOT include the various solutions in which they are used.

allylmagnesium bromide
allylmagnesium chloride
benzyl - d7 - magnesium chloride
benzylmagnesium chloride
butylmagnesium chloride
tert-butylmagnesium chloride
4-Tert-butylphenylmagnesium bromide
4-chlorophenylmagnesium bromide
cyclohexylmagnesium chloride
cyclopentylmagnesium chloride
decylmagnesium bromide
1,1 -dimethylpropylmagnesium chloride
dodecylmagnesium bromide
ethylmagnesium bromide
ethylmagnesium chloride
ethylmagnesium iodide
ethynylmagnesium bromide
ethynylmagnesium chloride
4-fluoro-3-methylphenylmagnesium bromide
4-fluorophenylmagnesium bromide
hexylmagnesium bromide
isobutylmagnesium bromide
isobutylmagnesium chloride
isopropylmagnesium bromide
isopropylmagnesium chloride
2-mesitylmagnesium bromide
methylmagnesium bromide
methylmagnesium chloride
methyl-d3-magnesium iodide
methylmagnesium iodide
octadecylmagnesium chloride
octylmagnesium chloride
pentamethylenebis (magnesium bromide)
pentylmagnesium bromide
phenyl-d5-magnesium bromide
phenylmagnesium bromide
phenylmagnesium chloride
propylmagnesium chloride
tetradecylmagnesium chloride
o-tolymagnesium bromide
p-tolymagnesium bromide
o-tolymagnesium chloride
2-trifluoromethylphenylmagnesium bromide
3-trifluoromethylphenylmagnesium bromide
4-trifluoromethylphenylmagnesium bromide
trimethylsilylmethylmagnesium chloride
vinylmagnesium bromide

ATTACHMENT G

ACCEPTABLE CONCENTRATIONS OF ORGANIC PEROXIDES & DILUENTS

Organic Peroxides	Concentration	Diluent
Acetyl Acetone Peroxide	<42%	Dimethyl Phthalate
Acetyl Benzoyl Peroxide	<45%	Alcohols
Acetyl cyclohexane Sulfonyl Peroxide		Unacceptable
Tert-Amyl Hydroperoxide	<88%	Water
Tert-Amyl Peroxybenzoate	<96%	Mineral Spirits
Tert-Amyl Peroxy-2-Ethylhexanoate	100%	Refrigerated
Tert-Amyl Peroxyneodecanoate	<77%	Mineral Spirits, Refrigerated
Tert-Amyl Peroxypivalate	<77%	Mineral Spirits
Tert-Amy Peroxy-3,5,5-Timethylhexanoate		Unacceptable
Tert-Butylcumyl Peroxide	100%	
Butyl-4,4-Di-(tertbutyl peroxy) valerate	100%	
Tert-Butyl Hydroperoxide	<90%	Water
Tert-Butyl Hydroperoxide & Di-Tert Butyl Peroxide	<82% <9%	Water
Tert-Butyl Monoperoxymaleate	<52%	Phthalates
Tert-Butyl Monoperoxymaleate as a paste	<42%	Phthalates
Tert-Butyl Monoperoxyphthalate		Unacceptable
Tert-Butylperoxyacetate	<52%	Mineral Spirits
Tert-Butyl Peroxybenzoate	<100%	
*Tert-Butylperoxycrotonate	<77%	
Tert-Butyldiethylacetate	100%	Refrigerated
Tert-Butylperoxy-2-Ethythexanoate	100%	Refrigerated
Tert-Butyl Peroxyisobutyrate	<77%	Aliphatics,
Refrigerated		
Tert-Butyl Peroxyisopropyl Carbonate	<77%	Aliphatic Hydrocarbon
Tert-Butyl Peroxyneodecanoate		Unacceptable
3-Tert-Butyl Peroxy-3-Phenylphthalide	100%	
Tert-Butyl Peroxypivalate	<27%	Refrigerated
Tert-Butyl Peroxystearyl Carbonate	100%	
Tert-Butyl Peroxy-3,5,5-Trimethylhexanoate		
3-Chloroperoxybenzoic Acid	<57%	Water
Cumyl Hydroperoxide (Cumene)	<90%	Cumene
Cumyl Peroxyneodecanoate		Unacceptable
Cumyl Peroxypivalate		Unacceptable
Cyclohexane Peroxide	<91%	Water
*Diacetone Alcohol Peroxides	<57%	Refrigerated
Diacetyl Peroxide	<27%	Refrigerated Dimethyl Phthalate
Di-Tert-Amyl Peroxide	<100%	
Dibenzoyl Peroxide	<77%	Water
Dibenzyl Peroxydicarbonate	<87%	Water/Refrigerated
Di-(4-tert-butyl cyclohexyl)peroxy dicarbonate	<100%	Refrigerated
Di-tert-Butyl peroxide	<100%	
2,2-Di-(tert-butyl peroxy)butane	<80%	Diethyl Phthalate
1,1 -Di-(Tert-Butylperoxy)cyclohexane	<52%	Butyl Benzyl Phthalate, Mineral Spirits, micro cel Clay
2,2-Di-(4,4-Tert-Butyl peroxy)cyclohexyl) propane	<42%	
Di-n-Butyl Peroxydicarbonate		Unacceptable
Di-sec-Butyl Peroxydicarbonate		Unacceptable
Di(2-Tert-Butyl Peroxy isopropyl) benzene	<100%	Benzene
Di-(Tert-Butyl peroxy)phthalate	<52%	Mineral Spirits
2,2-Di(tert-butyl peroxy)Propane	<52%	Mineral Spirits
1, 1-Di-(Tert-Butylperoxy)-3,3,5- trimethylcyclohexane	<57%	Calcium Carbonate, Clay

Organic Peroxides	Concentration	Diluent
Diacetylperoxydicarbonate	<100%	Refrigerated
Di-4-Chlorobenzoyl peroxide	<32%	Calcium Carbonate
Dicumyl Peroxide	<100%	
Dicyclohexyl Peroxydicarbonate	<100%	Refrigerated
Didecanoyl peroxide	<100%	Refrigerated
Di-2,4-Dichlorobenzoyl peroxide		Unacceptable
Di-2,4-Dichlorobenzoyl peroxide paste	<52%	Silicon Oil
Di-(2-ethylhexyl)peroxydicarbonate		Unacceptable
Diethyl peroxydicarbonate		Unacceptable
2,2-Dihydroperoxypropane		Unacceptable
Di-(1-hydroxycyclohexyl)peroxide	<100%	
Diisobutyryl peroxide		Unacceptable
Diisopropyl peroxydicarbonate		Unacceptable
Diisotridecyl Peroxydicarbonate		Unacceptable
Dilauroyl peroxide	<100%	
Di-(2-methyl benzoyl)peroxide	<87%	Water/Refrigerated
2,5-Dimethyl-2,5-di-(benzoyl peroxy)hexane	<82%	Water
2,5-Dimethyl-2,5-di-(tert-butyl peroxy)hexane-3	<100%	
2,5-Dimethyl-2,5-di-(2-ethyl hexanoyl peroxy) hexane	<100%	Refrigerated
2,5-Dimethyl-2,5-Dihydroperoxyhexane	<82%	Water
2,5-Dimethyl-2,5-di-(3,5,5-Tri-methylhexanoylperoxy)hexane	<100%	
Dimyristyl peroxydicarbonate	<100%	Refrigerated
Di-n-nonanoyl peroxide	<100%	Refrigerated
Di-n-octanoyl peroxide	<100%	Refrigerated
*Di peroxy azelaic acid	<27%	Refrigerated
*Di peroxy dodecane diacid	<42%	Refrigerated
Di-(2Phenoxyethyl)peroxydicarbonate	<85%	Water
Dipropionyl peroxide	<27%	Refrigerated
Di-n-propyl peroxydicarbonate		Unacceptable
Distearyl peroxydicarbonate	<87%	Calcium Carbonate, clay
Disuccinic acid peroxide	<72%	Water/Refrigerated
*Di-(3,5,5-trimethyl-1,2-dioxo-lanyl-3) peroxide	<52%	Water/Refrigerated
Di-(3,5,5-trimethylhexanoyl)peroxide	<82%	Refrigerated
Ethyl-3,3-di-(tert-amyl peroxy)butyrate	<67%	Odorless Mineral Spirit
Ethyl-3,3-di(tert-butyl peroxy)butyrate	<100%	
3,3,6,6,9,9-Hexamethyl-1,2,4,5-tetraoxacyclononane	<52%	Polyethylene, Aliphatics White Oil
Isopropylcumyl Hydroperoxide	<72%	Cumene
p-Methyl hydroperoxide	<100%	
*Methylcyclohexanone peroxide	<55%	Refrigerate
MEK peroxide	<40%	Mimethyl Phthalate
Methyl Isobutyl Ketone peroxide	<62%	Methyl Isobutyl Ketone
Peroxyacetic Acid	<43%	Water
Pinanyl Hydroperoxide	<100%	
Tetrahydronaphthyl Hydroperoxide	<100%	
1,1 3,3-Tetramethylbutyl hydroperoxide	<100%	
1, 1,3,3-Tetramethylbuty peroxy-2-ethyl hexanoate	<100%	Refrigerate
2,4,4-Trimethylpentyl-2-peroxyphenoxyacetate		Unacceptable

Note: ALL MINERAL SPIRITS MUST BE ODORLESS.

* NEED MORE INFO TO BE ABLE TO DETERMINE PROPER DILUENT.

ATTACHMENT H

CLARK LAB PACK FORMS

The following forms have been attached for your review and use in the order listed below:

Generator Profile Document (GPD) - Required for each lab pack shipment.
Inventory List - Required for each lab pack container
Haz-Cat Scan - Used to characterize unknowns
Addendum For Cylinders - Used to describe pressurized materials
Chemical Survey - This inventory list is for clients who wish CLARK to properly sort their chemicals for them.