

**RECORD OF REVISIONS**

<b>Rev</b>	<b>Date</b>	<b>Description</b>	<b>POC</b>	<b>RM</b>
0	9/17/2014	Initial issue.	Ari Ben Swartz, <i>ES-EPD</i>	Larry Goen, <i>ES-DO</i>

**Contact the Standards POC for upkeep, interpretation, and variance issues.**

<b>Chapter 17</b>	<a href="#"><u>Pressure Safety POC and Committee</u></a>
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This document is online at <http://engstandards.lanl.gov>

This attachment defines fluid services designated as Category M at LANL per ASME B31.3 Process Piping<sup>1</sup>. It also defines lethal substances for LANL per B&PV Code Section VIII<sup>2</sup>.

1. No designation in the right-hand column indicates the chemical is considered non-toxic/non-lethal, but no listing cannot be taken to mean that -- only that the chemical requires written evaluation/determination by the PSO and user and (with assistance of Industrial Hygiene if appropriate) with email notification to the CPSO.<sup>3</sup>
2. ID shown is not necessarily the operating system or system ID per ESM Chapter 1 Section 210.
3. Listings are generally alphabetically by media column.

<sup>1</sup> See ASME B31.3 paragraph 300.2 Definitions for "Fluid Service"

<sup>2</sup> See ASME B&PV Code Section VIII UW-2 paragraph (a) and footnote 1

<sup>3</sup> Notification to CPSO allows CPSO to oversee field decisions and/or add new chemicals to this listing over time

ID	Media (generally sorted by this)	Cat M/Lethal? (blank = no, missing = TBD)
AC	acetylene	
AW	acid waste	<b>Yes</b> (for concentrated solutions)
AG	argon	
AK	HCFC – 225g (cleaning fluid)	
AM	ammonia	
AAM	anhydrous ammonia	<b>Yes</b>
AR	air	
AZ	aerozine 50 fuel	<b>Yes</b>
AN	aluminum nitrate	
BA	breathing air	
BH	biological hazard (deadly)	<b>Yes</b>
BF	boiler feed water	
BFB	bromofluorobenze	
CF4	carbon tetrafluoride	
CG	calibration gas	Depends on the test gas
ChB	chlorobenzene	
CS	CAM sample air	
CW	caustic waste	
CR	central circulating hot water return	
CS	central circulating hot water supply	
WR	central chilled water return	
WS	central chilled water supply	
CI	chemical injection (water systems)	
CL	chlorine	<b>Yes</b>
CL	chlorine gas	<b>Yes</b>
CO2	carbon dioxide	
CO	carbon monoxide	
CF4	carbon tetra fluoride	
CW	chilled water	
CA	compressed air	
CD	condensate pump discharge	
DB	diborane (2%), argon bal	<b>Yes</b>
DE	diesel	

ID	Media (generally sorted by this)	Cat M/Lethal? (blank = no, missing = TBD)
DI	deionized water (incl. supply and return)	
DW	distilled water	
DR	drain	
DTR	dri-train return	
DTS	dri-train supply	
DU	deuterium	
HDV	house dry vacuum	
PDV	process dry vacuum	
EG	ethylene glycol	
FS	fire suppression	
FSA	fixed-head sample air	
F	fluorine gas	<b>Yes</b>
FCB	fluorochlorobenzen	
FE	HFE – 7100 (cleaning fluid)	
FR	Freon (r12) dichlorodifluoromethane	
FU	monomethylhydrazine (MMH) fuel	<b>Yes</b>
FX	fire protection water	
GH	gaseous hydrogen	
GN	gaseous nitrogen	
GO	gaseous oxygen	
GS	gasoline	
HA	Halon fire suppression	
H2S	hydrogen sulfide	<b>Yes</b>
HAN	hydroxylamine nitrate	<b>Yes</b>
HWR	heating water return	
HWS	heating water supply	
HPS	high pressure steam (above 15 psig)	
HIB	hydroxyisobutyric acid	
HCl	hydrochloric acid	<b>Yes</b>
HC	hydrocarbon liquid	
HD	hydraulic fluid	Depends on the material reference MSDS
HE	gaseous helium	
HF	hydrogen fluoride	<b>Yes</b>

ID	Media (generally sorted by this)	Cat M/Lethal? (blank = no, missing = TBD)
HFa	hydrofluoric acid	Yes
HL	liquid helium	
HCL	hydrogen chloride gas	Yes
HP	hydrogen peroxide (H <sub>2</sub> O <sub>2</sub> )	
HR	hydrofluoroether	
HW	hot water	
HY	hydrazine fuel	Yes
HZ	hazardous waste	Depends on the makeup of the waste
IP	isopropyl alcohol	
IW	industrial waste	
IW	industrial water	
IA	instrument air	
KE	kerosene	
KR	krypton	
LWR	limited-volume circulating chilled water return	
LWS	limited-volume circulating chilled water supply	
LA	liquid air	
LH	liquid hydrogen	
LN	liquid nitrogen	
LO	liquid oxygen	
LP	propane, butane	
LX	Lexsol heat transfer fluid	
LPC	low-pressure condensate (15 psig or less)	
LPG	low-pressure natural gas (less than 14 in. w.c.)	
LPS	low-pressure steam (15 psig or less)	
HG	mercury	Yes
MA	methyl alcohol	
ME	methane	
MF	Freon MF solvent	
NA	sodium hydroxide (NaOH)	Yes (for concentrated solutions)
NG	natural gas	
NP	neopentane (2,2-dimethylpropane)	No

ID	Media (generally sorted by this)	Cat M/Lethal? (blank = no, missing = TBD)
NWR	negative-pressure circulating chilled water return	
NWS	negative-pressure circulating chilled water supply	
NE	neon	
NAc	nitric acid	Yes (for concentrated solutions)
NO	nitric oxide	
NO2	nitrogen dioxide	Yes
N2O	nitrous oxide	
N2O4	dinitrogen tetroxide (N <sub>2</sub> O <sub>4</sub> )	Yes
OL	oil	
P-10	P-10 gas mix	
PH3	phosphine	Yes
PWR	positive-pressure circulating chilled water return	
PWS	positive-pressure circulating chilled water supply	
PW	potable water	
PHW	potable hot water return	
KOH	potassium hydroxide	
PCA	process compressed air	
PWR	process cooling water return	
PWS	process cooling water supply	
RLW	radioactive liquid waste	
RL	refrigerant liquid	
RS	refrigerant suction	
RG	regeneration gas	
SC	sodium carbonate	
SC	sodium citrate	
SS	sanitary sewer	
SP	sump pump discharge	
SF	sulfur hexafluoride (SF <sub>6</sub> )	
SO2	sulfur dioxide	Yes
H2SO4	sulfuric acid	Yes (for concentrated)

ID	Media (generally sorted by this)	Cat M/Lethal? (blank = no, missing = TBD)
		solutions)
ST	steam	
TF	Freon TF solvent	
TG	test gas (special types, mixes, etc.)	<b>Depends on the test gas</b>
TMA	trimethylamine 108 ppm	
TWD	tower water drain	
TWR	tower water return	
TWS	tower water supply	
TW	treated water	

ID	Media (generally sorted by this)	Cat M/Lethal? (blank = no, missing = TBD)
T3	tritium	
UD	unsymmetrical dimethyl hydrazine (UDMH) fuel	<b>Yes</b>
VA	vacuum	
VH	vent header (to TA-55 zone 1 HVAC)	
WV	wet vacuum	
WA	water	
Z1	zone 1 (TA-55 HVAC)	