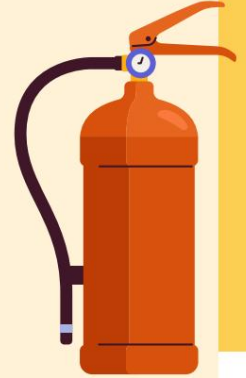


Use the revised "Explosion/

Fire Response Methods" for water-reactive substances!



In the event of a fire or explosion, **water-reactive substances** can cause **greater damage** if extinguished **incorrectly** .

To prevent this, the MSDS for water-reactive substances (90 types) on the Korea Occupational Safety & Health Agency Chemical Substance Information Site* has been revised and included under, "**How to respond in case of explosion or fire .**"

In the workplace, please prepare MSDS and provide **training to employees** to reflect the revised explosion/fire response methods .

*Korea Occupational Safety & Health Agency Chemical Substance Information Site: msds.kosha.or.kr/MSDSInfo/

Material Type	Fire extinguishing agents according to fire size and characteristics
lithium	<p>Do not use water or foam.</p> <p>For small fires , use dry chemical, dry sand, sodium chloride powder, graphite powder, Lith-X® powder, copper powder, or an extinguishing agent suitable for Class D fires.</p> <p>Use dry chemical, dry sand, sodium chloride powder, graphite powder, Lith-X® powder, copper powder, or other Class D extinguishing agent, or allow to burn and withdraw from fire area. If safe to do so, move undamaged containers from fire area.</p>
Chlorosilane	<p>Do not use water or foam. Do not use dry extinguishing agents, soda ash or lime as these may release large amounts of hydrogen gas which can explode.</p> <p>Small fire dry sand, alcohol-resistant foam</p> <p>Large fire Dry sand, alcohol-resistant foam If safe to do so, move undamaged containers from fire area.</p>
Water-reactive substances (88 types)	<p>Do not use water or foam.</p> <p>Small fires Dry chemical extinguishing agent, soda ash, lime or dry sand</p> <p>Large fires: Use dry sand, dry chemical, soda ash, or lime, or simply let it burn and withdraw from fire area. If safe to do so, move undamaged containers from fire area.</p> <p>Metal or powder (aluminum, magnesium, etc.) fires: Use dry chemical extinguishing agent, dry sand, sodium chloride powder, graphite powder, or an extinguishing agent suitable for Class D fires.</p>

* Revised based on 2024 ERG (Emergency Response Guidebook) 138, 139

List of water-reactive substances with revised explosion/fire response methods in the attached MSDS

Serial number	Material name (English name)	CAS No.
	Aluminum	7429-90-5
1 2	Barium	7440-39-3
	Calcium	7440-70-2
3 4	Cerium	7440-45-1
5	Cesium	7440-46-2
6	Chlorosilane	13465-78-6
7	Lithium	7439-93-2
8	Magnesium	7439-95-4
9	Potassium	7440-09-7
10	Rubidium	7440-17-7
11	Sodium	7440-23-5
12	Zinc	7440-66-6
13	Zirconium	7440-67-7
14	(1,1-Dimethylethyl)lithium	594-19-4
15	(1,2-Ethanediamine- η N1, η N2) ethynyllithium	6867-30-7
16	[N-{2-[(dithiocarboxy)amino]ethyl}carbamo(dithio)ato(2-)- η S, η S η] manganese	12427-38-2
17	Aluminum alloy, non-base, Al, Zn, dross	69011-73-0
18	Aluminum hydride	7784-21-6
19	Aluminum phosphide	20859-73-8
20	Aluminum, dross	69011-71-8
21	Boron sulfide	12007-33-9
22	Bromoethylmagnesium	925-90-6
23	Bromomethylmagnesium	75-16-1
24	Butyllithium	109-72-8
25	Butylmagnesium chloride	693-04-9
26	Calcium carbide	75-20-7
27	Calcium cyanamide	156-62-7
28	Calcium hydride	7789-78-8
29	Calcium nitride	12013-82-0
30	Calcium phosphide	1305-99-3
31	Calcium silicide	12013-56-8
32	Chlorodiethylaluminum	96-10-6
33	Chloroethylmagnesium	2386-64-3
34	Chlorophenylmagnesium	100-59-4
35	Di- μ -chlorochlorotriethylaluminum	12075-68-2
36	Dichloroethylaluminum	563-43-9
37	Dichloroethylsilane	1789-58-8
38	Dichloromethylaluminum	917-65-7
39	Dichloromethylsilane	75-54-7
40	Diethyl(ethyldimethylsilanolato)aluminum	55426-95-4
41	Diethylzinc	557-20-0
42	Dimethylzinc	544-97-8
43	Diphenylmagnesium	555-54-4
44	Ferrosilicon	8049-17-0
45	Gallium sulfide	12024-22-5
46	Hexyllithium	21369-64-2
47	Hydrobis(2-methylpropyl)aluminum	1191-15-7

List of water-reactive substances with revised explosion/fire response methods in the **attached** MSDS

Serial number	Material name (English name)	CAS No.
48	Isobutyllithium	920-36-5
49	Lithium amide	7782-89-0
50	Lithium hydride	7580-67-8
51	Lithium hydrotris(2-methyl-2-propanolato)aluminate	17476-04-9
52	Lithium tetrahydroaluminate	16853-85-3
53	Lithium tetrahydroborate	16949-15-8
54	Lithium triethylhydroborate	22560-16-3
55	Magnesium hydride	7693-27-8
56	Magnesium nitride	12057-71-5
57	Magnesium phosphide	12057-74-8
58	Magnesium silicide	22831-39-6
59	N,N,N',N'-tetraethylsilanediamine	27804-64-4
60	N,N-Disilylsilanamine	13862-16-3
61	Phosphorus sulfide	1314-80-3
62	Potassium amide	17242-52-3
63	Potassium hydride	7693-26-7
64	Potassium phosphide	20770-41-6
65	Potassium tetrahydroborate	13762-51-1
66	Rubidium oxide	18088-11-4
67	Sodium acetylde	1066-26-8
68	Sodium amide	7782-92-5
69	Sodium cyanotrihydroborate	25895-60-7
70	Sodium dihydrobis(2-methoxyethoxy)aluminate	22722-98-1
71	Sodium hydride	7646-69-7
72	Sodium lead alloy	12740-44-2
73	Sodium phosphide	12058-85-4
74	Sodium potassium alloy	11135-81-2
75	Sodium tetrahydroaluminate	13770-96-2
76	Sodium tetrahydroborate	16940-66-2
77	Strontium phosphide	12504-16-4
78	Tetraphosphorus trisulfide	1314-85-8
79	Tin phosphide	25324-56-5
80	Trichlorosilane	10025-78-2
81	Triethylaluminum	97-93-8
82	Trifluoro[oxybis(methane)]boron	353-42-4
83	Trihydro[thiobis(methane)]boron	13292-87-0
84	Trimethoxysilane	2487-90-3
85	Trimethylaluminum Trioctylaluminum	75-24-1
86	Tris(2-	1070-00-4
87	methylpropyl)aluminum Tris(trimethylsilyl)phosphine	100-99-2
88	Zinc phosphide	15573-38-3
89	Zirconium compd. with aluminum	1314-84-7
		12004-83-0