



Chemical Reactivity Worksheet

The Chemical Reactivity Worksheet (CRW) is a software program you can use to predict the hazards associated with mixing substances. The functionality of the CRW is incorporated in the chemical response software suite, CAMEO.

The latest version of the Worksheet, CRW 2.1, includes:

- A database of reactivity information for more than 5,000 CAMEO common hazardous chemicals.
- A way for you to virtually “mix” chemicals—like the chemicals in the derailed tank cars at right—to find out what dangers could arise from accidental mixing.
- A way for you to create your own proprietary chemical database.

The CRW includes information about the intrinsic hazards of each chemical (i.e., flammability, polymerizability, peroxidizability, etc.) and whether a chemical reacts vigorously with air, water, or other materials. It also includes case histories on specific chemical incidents.

To use the CRW, you select chemicals from its database, and add them to a “mixture.” The CRW then predicts the hazardous consequences of mixing the materials, including any gaseous products that may be produced.

How the CRW Works

Each substance is assigned to one or more reactive groups, based on the known structural characteristics of that substance. Reactive groups are categories of chemicals that react in similar ways because they have similar chemical structure.

The reactive hazards of any two groups are expressed by a series of statements such as: “Heat generated by chemical reaction causes pressurization” or “Toxic/flammable gas generation” to denote an exothermic reaction. These statements are designed to be easily understood in an incident environment. The hazards are presented as a possible outcome of the inadvertent mixing of two specific reactive groups. The model does not predict catalytic interactions.



For additional information on the Chemical Reactivity Worksheet:

<http://response.restoration.noaa.gov/CRW>

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Chemical Datasheet

General Info | Reactivity | Synonyms

Chemical Name: LITHIUM ALUMINUM HYDRIDE | Chemical Formula: LiAlH₄

CAS Number: 14953-85-3 | UNNA Number: 3410 | USCG CHRIS CODE: LAH | DOT Hazard Label: DANGEROUS WHEN WET | DOT Hazard Class: | Reactive Group Numbers: 25

General Description: A white powder that turns used to make other chemicals.

Special Hazards: Highly Flammable; Strongly Oxidizing

Reactivity Worksheet

Begin by searching for a chemical to add to the mixture. Return here to add water, reactive groups, and custom chemicals.

Reactivity Mixture: 3 chemical(s) and/or reactive group(s) in mixture

Chemical Name	Reactive Hazard Numbers	Reactive Group Numbers
CARBARYL		9
LITHIUM ALUMINUM HYDRIDE	105, 107, 108	25
SULFURIC ACID	104, 107	2

Predicted Hazards (Mixture Documentation) (for the reactive groups of the items in the mixture):

- 1) SULFURIC ACID mixed with:
- 2) LITHIUM ALUMINUM HYDRIDE

- Reaction proceeds with explosive violence and/or forms explosive products
- Heat generated from chemical reaction may include explosion
- Spontaneous ignition of reactants or products due to reaction heat
- Combination liberates gaseous products, at least one of which is flammable. May cause pressurization
- Exothermic reaction. May generate heat and/or cause pressurization

Parallels Cases: Hydrogen

To print hazards or documentation: Copy all text in the field above and paste into a word processor program, format as desired, then print.

Save This Mixture | Predict Hazards | Show Saved Mixtures | Preview Report | Show Compatibility Chart

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please visit our Web site at**

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