Hazard Communications (HAZCOM)

Title 29 CFR 1910.1200, Hazard Communications (HAZCOM) Standard, specifically addresses proper labeling of hazards in the workplace. All biocide products must bear the appropriate label. Labels convey information required by various local, state and federal laws. To the manufacturer, the label is a license to sell the product. To the government, the label is a means to control the distribution, storage, sale, use and disposal of the product. To the user, the label provides facts on how to use the product correctly and legally. To health and safety officials, the label provides information to prevent worker exposures, personal protective equipment to be used and actions to be taken if personnel are exposed. Biocide labels use "signal words" and symbols to provide immediate clues regarding danger of the product to humans. Understanding this labeling system helps the user take proper precautions and protect co-workers or other persons who could be exposed. Labels will appear on biocide containers as:

DANGER Highly toxic orally, dermally or through inhalation (LD50 of 50 ppm or below); causes severe eye and/or skin burning. Any biocides which are toxic orally, dermally or by inhalation will also carry a **POISON** signal worked in red and crossbones and skull symbol. A teaspoonful taken by mouth could kill and averaged-sized adult.

WARNING Moderately toxic orally, dermally or through inhalation (LD50 of 50 – 500 ppm); causes moderate eye and/or skin irritation. As little as a teaspoonful to a tablespoonful taken by mouth could kill and average-sized adult.

CAUTION Slightly toxic orally, dermally or through inhalation (LD50 of 500 ppm or more); causes slight eye and/or skin irritation. An ounce to more than a pint taken by mouth could kill an average-sized adult.

Hazard Indicators	Toxicity Categories			
	I	II	III	IV
Oral LD50	Up to and including 50 mg/kg	50 thru 500 mg/kg	500 thru 5000 mg/kg	> 5000 mg/kg
Inhalation LC50	Up to and including 0.2 mg/liter	0.2 thru 2 mg/liter	2 thru 20 mg/liter	> 20 mg/liter
Dermal LD50	Up to and including 200 mg/kg	200 thru 2000 mg/kg	2000 thru 20,000 mg/kg	> 20,000 mg/kg
Eye Effects	Corrosive; corneal opacity not reversible within 7 days	Corneal opacity reversible within 7 days; persisting for 7 days	No corneal opacity; irritation reversible within 7 days	No irritation
Skin Effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours

Toxicity classification commonly used in evaluating the danger of accidental poisoning through ingestion.

Toxicity Rating	Probably lethality for people		
	Dosage mg/kg	Dose for 70-kg person	Equivalent class
6, supertoxic	less than 5	a taste (less than 7 drops)	I
5, extremely toxic	5 – 50	between 7 drops and 1 teaspoonful	
4, very toxic	50 – 500	between 1 teaspoonful and 1 ounce	II
3, moderately toxic	500- 5,000	between 1 ounce and 1 pint (or 1 pound)	III
2, slightly toxic	5,000 – 15,000	between 1 pint and 1 quart	IV
1, practically nontoxic	above 15,000	more than 1 quart	

LD50 in Rats for several common substances

Salt	3000 mg/kg
Nicotine	2.7 – 12.5 mg/kg
Alcohol	13.7 ml/kg
Antifreeze	5.5 ml/kg