

# Pesticide Labeling: Precautionary Statements<sup>1</sup>

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This document interprets the precautionary statements provided to the pesticide user with information regarding the toxicity, irritation, and sensitization hazards associated with the use of a pesticide, as well as treatment instructions and information to reduce exposure potential.

The “Signal Word”, “Hazards to Humans and Domestic Animals”, “Personal Protective Equipment”, and “First Aid” statements are typically determined by the results of the acute toxicity studies performed during the product formulation. The acute oral, acute dermal, and acute inhalation studies evaluate systemic toxicity via the designated routes of exposure. The primary eye irritation and primary skin irritation studies measure irritation or corrosion, while the dermal sensitization study evaluates the potential for allergic contact dermatitis. With the exception of dermal sensitization, each acute study is assigned to a toxicity category based on the study results (Table 1). The results of these acute toxicity studies must be known in order for the appropriate labeling language to be determined.

## Determining the Precautionary Labeling

A Signal Word is required for all registered pesticide products unless the pesticide product meets the criteria of Toxicity Category IV by all routes of exposure. If a Signal Word is used in this case, it must be “Caution.” The Signal Word is determined by the most severe toxicity category assigned to the five acute toxicity studies (Table 1) or by the presence of methanol in concentrations of 4% or more.

The Signal Words and associated toxicity categories are as follows:

- Toxicity Category I: DANGER
- Toxicity Category II: WARNING
- Toxicity Category III: CAUTION
- Toxicity Category IV: CAUTION (optional)

The Signal Word is required to appear on the front panel of the label. The word “POISON” and the skull and crossbones symbol are required for products classified as toxicity category I for acute oral, acute dermal, or acute inhalation toxicity studies. It is also required if the inert ingredient methanol is present at 4% or more in the subject product because of the well-known possible risk of methanol to cause blindness.

## Child Hazard Warning Statement

The Child Hazard Warning statement, “Keep out of Reach of Children” is required on all product labels and must appear on the label’s front panel. The Child Hazard Warning appears on a separate line above the Signal Word.

## Hazards to Humans and Domestic Animals

Hazards to Humans and Domestic Animals statements are required when any acute toxicity study results in a product classification of toxicity category I, II, or III and/or when the dermal sensitization study result is positive. Hazards to Humans and Domestic Animals statements may specify

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both mandatory actions and advisory information. These statements are organized so that the routes of exposure that are of most concern (severe routes of exposure) according to the toxicity category classification are listed first. Statements shown in Tables 2–7 are selected based on the toxicity category assigned to each study.

## Personal Protective Equipment

All pesticide handlers—applicators, mixer/loaders, flaggers, and early-entry agricultural workers—are legally required to follow all PPE instructions that appear on the product label. A pesticide label lists the minimum PPE that a person must wear while performing handling or early-entry activities. Once the correct toxicity category has been established, the product-specific handler PPE can be identified. Table 8 shows how the correct product-specific handler protective clothing for products under the Worker Protection Standard (WPS) is derived based on the toxicity category for a given product.

In addition to PPE listed in Table 8, additional, more protective PPE is required for products that are classified as toxicity category I or II for acute dermal toxicity or skin irritation (Table 9).

## First Aid/Statement of Practical Treatment Statements

A first aid statement is required when any acute toxicity study result is classified as category I, II, or III. Although not required, a registrant may include first aid statements for products that are classified as category IV. First aid statements appear on the front panel of the label for all products classified as toxicity category I. First aid statements for toxicity categories II and III may appear on any panel of the label. The statements are organized so that the most severe routes of exposure, as demonstrated by the toxicity classification, are listed first. Table 10 contains a listing of first-aid statements for the common pesticide routes of exposure.

## Note to Physicians

A Note to Physician is seen on the label of:

- all products that are classified as toxicity category I;
- products that are corrosive or classified as toxicity category I for eye or skin and include the following Note to Physician: “Probable mucosal damage may contraindicate the use of gastric lavage;”
- products that contain  $\geq 10\%$  petroleum distillate and include the following Note to Physician: “Contains

petroleum distillate. Vomiting may cause aspiration pneumonia;”

- products that produce physiological effects requiring specific antidotal or medical treatment such as cholinesterase inhibitors (e.g., carbamates and phosphorothioates, and organophosphates), metabolic stimulants (e.g., dichlorophenols), and anticoagulants (e.g., warfarin).

The Note to Physician appears below the last first aid statement.

Table 1. Toxicity categories.

Study	Category I	Category II	Category III	Category IV
Acute oral	Up to and including 50 mg/kg	>50–500 mg/kg	>500–5,000 mg/kg	>5,000 mg/kg
Acute dermal	Up to and including 200 mg/kg	>200–2,000 mg/kg	>2,000–5,000 mg/kg	>5,000 mg/kg
Acute inhalation <sup>1</sup>	Up to and including 0.05 mg/liter	>0.05–0.5 mg/liter	>0.5–2 mg/liter	>2 mg/liter
Primary eye irritation	Corrosive (irreversible destruction of ocular tissue) or corneal involvement or irritation persisting for more than 21 days	Corneal involvement or other eye irritation clearing in 8–21 days	Corneal involvement or other eye irritation clearing in 7 days or less	Minimal effects clearing in less than 24 hours
Primary skin irritation	Corrosive (tissue destruction into the dermis and/or scarring)	Severe irritation at 72 hours (severe erythema or edema)	Moderate irritation at 72 hours (moderate erythema)	Mild or slight irritation at 72 hours (no irritation or slight erythema)

<sup>1</sup>4-hour exposure

Table 2. Typical statements for acute oral toxicity.

Toxicity category	Signal word	Statements
I	DANGER-POISON skull & crossbones required	Fatal if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
II	WARNING	May be fatal if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
III	CAUTION	Harmful if swallowed. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
IV	CAUTION (optional)	No statements are required; however, the registrant may choose to use CAUTION as the Signal Word.

Table 3. Typical statements for acute dermal toxicity.

Toxicity category	Signal word	Statements
I	DANGER-POISON skull & crossbones required	Fatal if absorbed through skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Appropriate protective clothing to wear is specified. Remove and wash contaminated clothing before reuse.
II	WARNING	May be fatal if absorbed through skin. Do not get in eyes, on skin, or on clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Appropriate protective clothing to wear is specified. Remove and wash contaminated clothing before reuse.
III	CAUTION	Harmful if absorbed through skin. Avoid contact with skin, eyes, or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Appropriate protective clothing to wear is specified. Remove and wash contaminated clothing before reuse.
IV	CAUTION (optional)	No statements are required; however, the registrant may choose to use CAUTION as the Signal Word.

Table 4. Typical statements for acute inhalation toxicity.

Toxicity category	Signal word	Statements
I	DANGER-POISON skull & crossbones required	Fatal if inhaled. Do not breathe in dust, vapor, or spray mist. Appropriate respiratory protection to wear is specified. Remove and wash contaminated clothing before reuse.
II	WARNING	May be fatal if inhaled. Do not breathe in dust, vapor, or spray mist. Appropriate respiratory protection to wear is specified. Remove and wash contaminated clothing before reuse.
III	CAUTION	Harmful if inhaled. Avoid breathing in dust, vapor, or spray mist. Remove and wash contaminated clothing before reuse.
IV	CAUTION (optional)	No statements are required; however, the registrant may choose to use CAUTION as the Signal Word.

Table 5. Typical statements for primary eye irritation.

Toxicity category	Signal word	Statements
I	DANGER	Corrosive. Causes irreversible eye damage. Do not get in eyes or on clothing. Wear appropriate protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.
II	WARNING	Causes substantial but temporary eye injury. Do not get in eyes or on clothing. Wear appropriate protective eyewear (goggles, face shield, or safety glasses). Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.
III	CAUTION	Causes moderate eye irritation. Avoid contact with eyes or clothing. Protective eyewear will be specified, if appropriate. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
IV	CAUTION (optional)	No statements are required; however, the registrant may choose to use CAUTION as the Signal Word.

Table 6. Typical statements for primary skin irritation.

Toxicity category	Signal word	Statements
I	DANGER	Corrosive. Causes skin burns. Do not get in eyes, on skin, or on clothing. Appropriate protective clothing and gloves are specified. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.
II	WARNING	Causes skin irritation. Do not get on skin or on clothing. Appropriate protective clothing and gloves are specified. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove and wash contaminated clothing before reuse.
III	CAUTION	Avoid contact with skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Appropriate protective clothing and gloves are specified.
IV	CAUTION (optional)	No statements are required; however, the registrant may choose to use CAUTION as the signal word.

Table 7. Typical statements for dermal sensitization.\*

Study results	Statement
Product is a sensitizer or is positive for sensitization.	Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.
Product is not a sensitizer or is negative for sensitization.	No labeling is required for this result.

\*A positive dermal sensitization study for a category IV product does not trigger a PPE requirement.

Table 8. Handler PPE for WPS products.

Route of exposure	Toxicity category by route of exposure of end-use product			
	I DANGER	II WARNING	III CAUTION	IV CAUTION (optional)
Dermal toxicity or skin irritation potential	Coveralls worn over long-sleeved shirt and long pants	Coveralls worn over short-sleeved shirt and short pants	Long-sleeved shirt and long pants	Long-sleeved shirt and long pants
	Socks	Socks	Socks	Socks
	Chemical-resistant footwear	Chemical-resistant footwear	Shoes	Shoes
	Waterproof or chemical-resistant gloves	Waterproof or chemical-resistant gloves	Waterproof or chemical-resistant gloves	No minimum
Inhalation toxicity	Respiratory protection device	Respiratory protection device	No minimum	No minimum
Eye irritation potential	Protective eyewear	Protective eyewear	No minimum	No minimum

Table 9. Additional dermal toxicity and/or skin irritation PPE for toxicity category I or II.

Conditions requiring additional PPE and labeling	Required PPE and labeling
All products that are not ready-to-use and do not require a chemical-resistant suit bear the corresponding statement:	"When mixing and loading wear a chemical-resistant apron."
All products labeled for application procedures that might involve overhead exposure bear the corresponding statement:	"For overhead exposure wear chemical-resistant headgear."
All products labeled for use of equipment other than the product container to mix, load, or apply the product bear the corresponding statement:	"When cleaning equipment wear a chemical-resistant apron."

Table 10. First aid statements.

Route of exposure and toxicity category	First aid statement
Ingestion treatment for acute oral toxicity categories I, II, and III	If swallowed: Call a poison control center or physician immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by a poison control center or physician. Do not give anything to an unconscious person.
Skin exposure treatment for acute dermal toxicity and irritation categories I, II, and III	If on skin: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15–20 minutes. Call a poison control center or physician for treatment advice.
Inhalation treatment for acute toxicity categories I, II, and III	If inhaled: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or physician for further treatment advice.
Eye exposure treatment for eye irritation categories I, II, and III	If in eyes: Hold eye open and rinse slowly and gently with water for 15–20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing. Call a poison control center or physician for treatment advice.
General information either near the first aid statement or emergency phone number	Have the product container or label with you when calling a poison control center or physician or when going for treatment. For general information on product use, etc., call the National Pesticides Information Center at 1-800-858-7378. For emergencies, call the poison control center 1-800-222-1222.