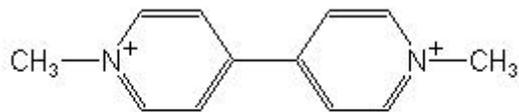


Pesticide applicators and dealers need to be aware of personal protective equipment requirements, especially when unfamiliar with a product.

Cecil Tharp (MSU Pesticide Education Specialist)



PARAQUAT

Most herbicide products used in Montana require only minimal personal protective equipment (PPE) and have the corresponding signal word ‘CAUTION’. However, the use of a highly-toxic herbicide active ingredient, ‘paraquat’, has been on the rise in Montana. This herbicide is very useful for applicators especially due to the growing concern regarding glyphosate resistant kochia. Applicators need to keep in mind that this pesticide is very effective but is designated on the 1st page of the product label as highly toxic, signal word ‘DANGER-POISON’ (see image below):

DANGER/PELIGRO  **POISON**

Potential for poisoning increases when the acute toxicity category rises. The acute toxicity categories reflected on a product label are:

Category	Signal Word	Toxicity Examples (Death to a 160 lb human)
1	Danger Danger/Poison	few drops to 1 teaspoon
2	Warning	1 teaspoon to tablespoon
3	Caution	1 tablespoon to 1 pint
4	Caution or Unlabeled	greater than 1 pint

When using higher toxicity products applicators need to wear more PPE to reduce exposure. Neglecting to following the product label PPE requirements puts you and your workers, handlers and possibly family at risk to poisoning. Poisoning can result in death or permanent impairment when dealing with many high toxicity pesticides such as ‘paraquat’. Due to these risks applicators shouldn’t simply ask dealers, retailers, friends, family or neighbors for the exact PPE, they should always read and follow the pesticide product label. That is the ultimate source and contract for applicators to follow.

Recommendations for products containing paraquat

(Common product examples include: Bonedry, Gramoxone SL, Paraquat Concentrate, Firestorm, etc..)

Remember that the PPE requirements are always on the pesticide product label and are updated periodically. The recommendations for paraquat products are currently divided into 2 sub-categories including applicators-handlers and mixers-loaders. Exposures vary depending on the scenario. If using paraquat applicators must:

Applicators and other Handlers

Wear long sleeve shirt and long pants, chemically resistant gloves (category A: read label for details), protective eyewear, NIOSH approved particulate filtering respirator equipped with N, R, P or HE class filter media.

Mixers and Loaders

Long sleeve shirt and long pants, chemically resistant gloves (Category A), Shoes plus socks, chemically resistant apron, faceshield, NIOSH approved particulate filtering respirator equipped with N, R HE or P class filter media

There are some interesting differences between the two classes. Mixers must wear a chemically resistant apron and face-shield while applicators don't. In addition all users must keep in mind the many types of respirators and select only the type of respirator recommended on the pesticide label.

Dealers / Pesticide Retailers

The number one rule when working with pesticide products is to not give out inaccurate information. A dealer or retailer simply indicating 'I don't know' is far better than one giving out advice that is inaccurate when the stakes are so high. It's always a good idea to review the pesticide product label prior to making PPE recommendations.

Where to purchase personal protective equipment

Personal protective equipment is often available where pesticide products are sold but not always. We strongly urge dealers to stock PPE that matches the pesticide products sold, however this is only a recommendation. PPE is usually sold at ag retailers businesses that vary by region. You can ask your local pesticide dealer for more information or you may go online to www.gemplers.com or www.airgas.com for just a few vendors that sell pesticide personal protective equipment.

For Further Information: See personal protective equipment at www.airgas.com or www.gemplers.com. If you have further questions contact Cecil Tharp (Pesticide Education Coordinator; ctharp@montana.edu; 406-994-5067).