



THE FACTS ON CHLORPYRIFOS SAFETY

The U.S. Court of Appeals for the Ninth Circuit ordered the U.S. Environmental Protection Agency (EPA) to make a final determination on a petition filed by activists seeking the revocation of tolerances and cancellation of registrations of chlorpyrifos. In denying the petition, EPA fully complied with the court order.

- The court did not, nor could it, direct EPA to take any particular action with respect to chlorpyrifos other than to make a final determination on the petition.
- EPA's publishing for public comment a proposed rule to revoke tolerances and a human health risk assessment based on an incomplete scientific evaluation did not constitute final agency action. EPA's 2006 determination that there is a reasonable certainty of no harm from approved uses of chlorpyrifos on food crops will remain in effect until EPA completes the ongoing periodic registration review of chlorpyrifos using valid and reliable scientific information.
- Dow AgroSciences is confident that chlorpyrifos will continue to safely and effectively protect food crops from insect damage after EPA completes registration review.

Extensive studies show that current uses of chlorpyrifos meet the U.S. regulatory standard of a reasonable certainty of no harm for humans, including children. The U.S. is among nearly 100 countries that have registered chlorpyrifos for use by farmers.

- Chlorpyrifos is one of the most widely studied crop protection products in the world. In fact, more than 4,000 regulatory guideline studies have been conducted and subjected to critical evaluation by regulatory authorities in around 100 countries where the product is currently registered and legally approved for use.
- EPA is only allowed to register a pesticide to protect food crops if it concludes, after considering the validity, completeness and reliability of the best available scientific information, that exposures from intended uses pose a "reasonable certainty of no harm" to people, including potentially sensitive individuals such as children and pregnant women. Regarding chlorpyrifos, a full weight of evidence evaluation from thousands of studies, along with a critical examination of the studies being cited by some who have raised safety questions, shows that current uses of chlorpyrifos meet the regulatory standard of a "reasonable certainty of no harm" for humans, including children.
- The research confirms that chlorpyrifos is not a specific neurodevelopmental toxicant, not a carcinogen, not a genotoxic agent, not a developmental toxicant, and not a reproductive toxicant. Further, laboratory studies conducted under stringent guidelines set by EPA for such research have shown that the young are not more sensitive than adults.



While safety questions have been raised about certain epidemiologic results, the findings are not consistent with other research.

- For the epidemiology studies that have looked at chlorpyrifos, it is important to consider all the evidence. The research referred to as the Columbia study claimed some associations, but had weaknesses in determining exposure during pregnancy, and accounting for other competing causes, such as gestational age at birth, nutritional deficiencies, other environmental exposures, and the quality of maternal interactions with the child. As a result, the study can only raise a hypothesis between possible chlorpyrifos exposures and health effects in children.
- Other epidemiology studies, and the two most cited, (e.g., CHAMACOS and Mount Sinai) reported no significant associations between possible exposure to chlorpyrifos and any health effects in the children from the study. In scientific terms, these studies tested the hypothesis of the Columbia Study and could not validate the findings.
- EPA's most recent Scientific Advisory Panel, and even EPA have noted that there has been no mode of action found which would indicate chlorpyrifos would cause these effects despite the extensive research done; so, in other words, the claim of association between chlorpyrifos and the effects reported in the Columbia study are not biologically plausible.
- The most recent Scientific Advisory Panel (SAP) convened by EPA to review the body of evidence urged EPA not to use the Columbia study as it had proposed in its chlorpyrifos evaluation, noting a number of uncertainties and raising questions about the researcher's methodology and conclusions. In addition to the SAP, multiple published reviews of epidemiology findings of the Columbia study describe the evidence for a neurodevelopmental effect as inadequate, inconsistent and implausible.

For further details about chlorpyrifos regulation and human health visit www.chlorpyrifos.com

For media inquiries contact David Sousa of Dow AgroSciences Public Affairs at email DJSousa@dow.com or phone +1 317 337 6223

11 April 2017