

Chemical Factsheet

Imazamox

Imazamox is formulated both as an acid and as an isopropylamine salt.

General Information

- Product Names:
 - A355.01** (Atticus, llc.)
 - A355.02** (Atticus, llc.)
 - Ada 53644** (Makhteshim agan of north america, inc.)
 - Agan imazamox technical** (Adama agan ltd.)
 - Alligare imazamox herbicide** (Alligare, llc.)
 - Beyond** (BASF corporation)
 - Clearcast 2.7g** (BASF corporation)
 - Clearcast herbicide** (BASF corporation)
 - Clearmax herbicide** (BASF corporation)
 - Imazamox 1sl ag** (Albaugh, llc.)
 - Imazamox isl aquatic** (Albaugh, llc.)
 - Imazamox tgai** (Albaugh, llc.)
 - Postscript** (Makhteshim agan of north america, inc.)
 - Raptor dg herbicide** (BASF corporation)
 - Raptor herbicide** (BASF corporation)
 - Raptor herbicide technical** (BASF corporation)
- Chemical Class: Imidazolinone Herbicide
- Uses: A selective terrestrial and aquatic broad-spectrum herbicide used for post-emergence control of broadleaf weeds and grass in alfalfa, edible legumes, and soybeans.
- Alternatives: [Organic Agriculture](#), [Organic lawn care](#)
- Beyond Pesticides rating: [Toxic](#)

Health and Environmental Effects

See citations at end of document.

- Cancer: Possible (1)
- Endocrine Disruption: Not documented
- Reproductive Effects: Possible (2)
- Neurotoxicity: Possible (3, 4)
- Kidney/Liver Damage: Possible (5)
- Sensitizer/Irritant: Not Likely (6)
- Birth/Developmental: Not Likely (6)
- Detected in Groundwater: Yes (7, 8)
- Potential Leacher: Yes (6, 7)
- Toxic to Birds: Low (6)
- Toxic to Fish/Aquatic Organisms: Yes (7, 8)
- Toxic to Bees: Yes (9)

Additional Information

- Regulatory Status:
 - [Registration Review](#) (06/2014)
 - [Imazamox Preliminary Work Plan, Registration Review: Initial Docket, Case Number 7238](#) (06/2014)
 - [Imazamox - Active Ingredient Registration 3/03](#) (03/2003)
 - [Imazamox; exemption from the requirement of a tolerance](#) (02/2003)
 - [EPA Pesticide Fact Sheet](#) (05/1997)
- Supporting information:
 - [SAFETY DATA SHEET for Alligare IMOX™ Herbicide](#) (Alligare, LLC)
 - [Ecological risk assessment evaluating Imazamox \(PC 129171\) for the proposed new use on Clearfield rice \(imidazolonone-tolerant rice\). DP Barcode 348399 \(PDF, 85 pp, 5MB\)](#) (EPA)
 - [Pesticide Database -- Imazamox](#) (Pesticide Action Network)
 - [Imazamox Chemical Fact Sheet](#) (Wisconsin Department of Natural Resources)
- Studies [compiled from the [Pesticide-Induced Diseases Database](#)]
 - [Toxicity of the herbicides used on herbicide-tolerant crops, and societal consequences of their use in France.](#) Bourdineaud, J.P., 2020. *Drug and Chemical Toxicology*, pp.1-24.
 - [Sub-lethal effects of herbicides penoxsulam, imazamox, fluridone and glyphosate on Delta Smelt \(*Hypomesus transpacificus*\)](#) Jin, J., Kurobe, T., Ramírez-Duarte, W.F., Bolotaolo, M.B., Lam, C.H., Pandey, P.K., Hung, T.C., Stillway, M.E., Zweig, L., Caudill, J. and Lin, L., 2018. *Aquatic Toxicology*, 197, pp.79-88.
 - [The effect of microplastics on behaviors of chiral imidazolinone herbicides in the aquatic environment: Residue, degradation and distribution.](#) Hu, M., Hou, N., Li, Y., Liu, Y., Zhang, H., Zeng, D., & Tan, H. (2021). The effect of microplastics on behaviors of chiral imidazolinone herbicides in the aquatic environment: Residue, degradation and distribution. *Journal of hazardous materials*, 418, 126176. <https://doi.org/10.1016/j.jhazmat.2021.126176>

Gateway Health and Environmental Effects Citations

1. Demirci, Ö., Toptancı, B.Ç. and Kızıl, M., 2016. In Vitro Studies on Pesticide-Induced Oxidative DNA Damage. *Journal of the Turkish Chemical Society Section A: Chemistry*, 3(3), pp.479-490. https://www.researchgate.net/profile/Oezlem_Demirci/publication/308977224_In_Vitro_Studies_on_Pesticide-Induced_Oxidative_DNA_Damage/links/58bf06a7aca272bd2a3acf3a/In-Vitro-Studies-on-Pesticide-Induced-Oxidative-DNA-Damage.pdf
2. Sevim, Ç. and Çomaklı, S. Histopathological changes of the testes on commonly used herbicides (glufosinate and imazamox) exposure. [See PDF](#)
3. Tsatsakis, A., Tyshko, N.V., Docea, A.O., Shestakova, S.I., Sidorova, Y.S., Petrov, N.A., Zlatian, O., Mach, M., Hartung, T. and Tutelyan, V.A., 2019. The effect of chronic vitamin deficiency and long term very low dose exposure to 6 pesticides mixture on neurological outcomes—A real-life risk simulation approach. *Toxicology letters*, 315, pp.96-106. <https://www.sciencedirect.com/science/article/pii/S0378427419302140>
4. Taghizadehghalehjoughi, A. and Cicek, B., 2018. Momordica and Pycnogenol Can Tolerate Imazamox Induced Toxicity in L929 Cells Line: In Vitro Study. In *Multidisciplinary Digital Publishing Institute Proceedings* (Vol. 2, No. 25, p. 1584). <https://doi.org/10.3390/proceedings2251584>

5. Sevim, Ç., Çomaklı, S., Taghizadehghalehjoughi, A., Özkaraca, M., Mesnage, R., Kovatsi, L., Burykina, T.I., Kalogeraki, A., Antoniou, M.N. and Tsatsakis, A., 2019. An imazamox-based herbicide causes apoptotic changes in rat liver and pancreas. *Toxicology reports*, 6, pp.42-50. <https://doi.org/10.1016/j.toxrep.2018.11.00>
6. US EPA, Office of Prevention, Pesticides and Toxic Substances, Pesticide Fact Sheet. https://www3.epa.gov/pesticides/chem_search/reg_actions/registration/fs_PC-129171_22-May-97.pdf
7. Kaur, P., Kaur, P. and Kaur, K., 2020. Adsorptive removal of imazethapyr and imazamox from aqueous solution using modified rice husk. *Journal of Cleaner Production*, 244, p.118699. <https://doi.org/10.1016/j.jclepro.2019.118699>
8. Di Marzio, W.D., Cifoni, M., Sáenz, M.E., Galassi, D.M. and Di Lorenzo, T., 2018. The ecotoxicity of binary mixtures of Imazamox and ionized ammonia on freshwater copepods: Implications for environmental risk assessment in groundwater bodies. *Ecotoxicology and Environmental Safety*, 149, pp.72-79. <https://www.sciencedirect.com/science/article/pii/S0147651317307844>
9. Wisconsin Department of Natural Resources, 2012. Imazamox Chemical Fact Sheet. <https://dnr.wi.gov/lakes/plants/factsheets/ImazamoxFactsheet.pdf>

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