# 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 Çomakli, 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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