

Material group	5703	Page 1 of 12
Product name	IMIDACLOPRID 12.9% PREMIX	August 2017
Safety data sheet according to EU Reg. 1907/2006 as amended		Supersedes November 2016

SAFETY DATA SHEET

IMIDACLOPRID 12.9% PREMIX

Revision: Sections containing a revision or new information are marked with a ♣.

♣ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1. **Product identifier** **IMIDACLOPRID 12.9% PREMIX**
- 1.2. **Relevant identified uses of the substance or mixture and uses advised against** Can be used for production of insecticides only.
- 1.3. **Details of the supplier of the safety data sheet** **CHEMINOVA A/S**, a subsidiary of FMC Corporation
 Thyborønvej 78
 DK-7673 Harboøre
 Denmark
SDS.Ronland@fmc.com
- 1.4. **Emergency telephone number**
Company (+45) 97 83 53 53 (24 h; for emergencies only)
- Medical emergencies:**
- | | |
|-------------------------------------|--|
| Austria: +43 1 406 43 43 | Netherlands: +31 30 274 88 88 |
| Belgium: +32 70 245 245 | Norway: +47 22 591300 |
| Bulgaria: +359 2 9154 409 | Poland: +48 22 619 66 54 |
| Cyprus: 1401 | +48 22 619 08 97 |
| Czech Republic: +420 224 919 293 | Portugal: 808 250 143 (in Portugal only) |
| +420 224 915 402 | +351 21 330 3284 |
| Denmark: +45 82 12 12 12 | Romania: +40 21318 3606 |
| France: +33 (0) 1 45 42 59 59 | Slovakia: +421 2 54 77 4 166 |
| Finland: +358 9 471 977 | Slovenia: +386 41 650 500 |
| Greece: 30 210 77 93 777 | Spain: +34 91 562 04 20 |
| Hungary: +36 80 20 11 99 | Sweden: +46 08-331231 |
| Ireland (Republic): +352 1 809 2166 | 112 |
| Italy: +39 02 6610 1029 | Switzerland: 145 |
| Lithuania: +370 523 62052 | United Kingdom: 0870 600 6266 (in the UK only) |
| +370 687 53378 | U.S.A. & Canada: +1 800 / 331-3148 (ProPharma) |
| Luxembourg: +352 8002 5500 | All other countries: +1 651 / 632-6793 (PorPharma - Collect) |

SECTION 2: HAZARDS IDENTIFICATION

- 2.1. **Classification of the substance or mixture** Hazards to the aquatic environment, acute: Category 1 (H400)
 chronic: Category 1 (H410)

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WHO classification Class III: Slightly hazardous

Health hazards The product is not considered as harmful. However, it should always be treated with the usual care of handling chemicals.

Environmental hazards The product is very toxic to aquatic invertebrates.

2.2. Label elements

According to EU Reg. 1272/2008 as amended

Product identifier Imidacloprid 12.9% Premix

Hazard pictogram (GHS09)



Signal word Warning

Hazard statement
 H410 Very toxic to aquatic life with long lasting effects.

Supplementary hazard statements
 EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions of use.

Precautionary statements
 P273 Avoid release to the environment.
 P391 Collect spillage
 P501 Dispose of contents/container as hazardous waste.

2.3. Other hazards None of the ingredients in the product meets the criteria for being PBT or vPvB.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances The product is a mixture, not a substance.

3.2. Mixtures See section 16 for full text of hazard statements.

Active ingredient

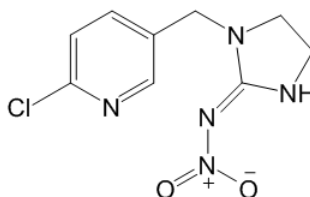
Imidacloprid Content: 13% by weight
 CAS name 2-Imidazolidinimine, 1-[(6-chloro-3-pyridinyl)methyl]-N-nitro-
 CAS no. 138261-41-3
 IUPAC name 1-(6-Chloro-3-pyridinyl)methyl-N-nitroimidazolidin-2-ylidene-amine
 ISO name Imidacloprid
 EC no. ELINCS no.: 428-040-8
 EU index no. 612-252-00-4

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Classification of the substance

Acute oral toxicity: Category 4 (H302)
 Hazards to the aquatic environment, acute: Category 1 (H400)
 chronic: Category 1 (H410)

Structural formula



Reportable ingredient

	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
1,2-Benzisothiazol-3(2H)-one	Max. 0.04	2634-33-5	220-120-9	Acute Tox . 4 (H302) Skin Irrit 2 (H315) Eye Irrit. 1 (H318) Skin Sens. 1A (H317) Aquatic Acute 1 (H400)

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation	If experiencing any discomfort, immediately remove from exposure. Light cases: Keep person under surveillance. Get medical attention immediately if symptoms develop. Serious cases: Get medical attention immediately or call for an ambulance.
Skin contact	Immediately flush skin with much water while removing contaminated clothing and footwear. Wash with water and soap. See physician if irritation develops.
Eye contact	Immediately rinse eyes with much water or eyewash solution, occasionally opening eyelids, until no evidence of chemical remains. Remove contact lenses after a few minutes and rinse again. See physician if irritation develops.
Ingestion	Let the exposed person rinse mouth and let him/her drink several glasses of water or milk, but do not induce vomiting. If vomiting does occur, let him/her rinse mouth and drink fluids again. Never give anything by mouth to an unconscious person. Get medical attention immediately.

4.2. Most important symptoms and effects, both acute and delayed

Gastrointestinal discomfort, tremors and difficulty breathing were noted on exposure to similar but more concentrated formulations.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate medical attention is required in case of ingestion.
 It may be helpful to show this safety data sheet to physician.

Notes to physician

A specific antidote against this product is not known. Gastric lavage and/or administration of activated charcoal can be considered. After

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decontamination, treatment is supportive and symptomatic as for a general chemical.

SECTION 5: FIRE-FIGHTING MEASURES

- 5.1. **Extinguishing media** Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.
- 5.2. **Special hazards arising from the substance or mixture** The essential breakdown products are volatile, malodorous, toxic, irritant and inflammable compounds such as nitrogen oxides, hydrogen chloride, hydrogen cyanide, carbon monoxide, carbon dioxide and various chlorinated organic compounds.
- 5.3. **Advice for firefighters** Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1. **Personal precautions, protective equipment and emergency procedures** It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.
- In case of large spill (involving 10 tonnes of the product or more):
1. use personal protection equipment; see section 8
 2. call emergency telephone no.; see section 1
 3. alert authorities.
- Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and boots.
- Stop the source of the spill immediately if safe to do so. Reduce and avoid mist formation as much as possible.
- 6.2. **Environmental precautions** Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.
- 6.3. **Methods and materials for containment and cleaning up** It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).
- If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be absorbed onto an absorptive material such as universal binder, attapulgate, bentonite or other absorbent clays. Collect the contaminated absorbent in suitable

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containers. Clean area with much water and industrial detergent. Absorb wash liquid onto absorbent and transfer to suitable containers. The used containers should be properly closed and labelled.

Large spills which soak into the ground should be dug up and transferred to suitable containers.

Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.

- 6.4. **Reference to other sections** See subsection 8.2. for personal protection.
 See section 13 for disposal.

SECTION 7: HANDLING AND STORAGE

- 7.1. **Precautions for safe handling** In an industrial environment it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.

For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.

Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.

Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.

- 7.2. **Conditions for safe storage, including any incompatibilities** The product is stable under normal conditions of warehouse storage at temperatures of 0 to 40°C. Protect against extremes of heat and cold.
- Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.

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- 7.3. **Specific end use(s)** The product is meant for the production of registered pesticides which may only be used for officially allowed applications.

♣ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Personal exposure limits To our knowledge, personal exposure limits have not been established for imidacloprid or any other component in this product. However, exposure limits defined by local regulations may exist and must be observed.

Imidacloprid

DNEL, oral	0.08 mg/kg bw/day
DNEL, inhalation	0.007 mg/kg bw/day
PNEC, aquatic	36 µg/l

8.2. Exposure controls

When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non-hazardous before opening.

In cases of incidental high exposure, maximal personal protection may be necessary, such as respirator, face mask, chemical resistant coveralls.



Respiratory protection

In the event of an accidental discharge of the material which produces a heavy vapour or mist, workers must put on officially approved respiratory protection equipment with a universal filter type including particle filter.



Protective gloves

Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection. It is recommended to limit the work to be done manually.



Eye protection

Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.



Other skin protection

Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on physical and chemical properties

Appearance	White liquid
Odour	Practically odourless
Odour threshold	Not determined
pH	Undiluted: 4.85 - 5.15
Melting point/freezing point	Not determined
Initial boiling point and boiling range	Not determined
Flash point	Not determined, but expected to be > 95°C
Evaporation rate	Not determined
Flammability (solid/gas)	Not applicable (liquid)
Upper/lower flammability or explosive limits	Not determined
Vapour pressure	Imidacloprid : 4×10^{-10} Pa at 20°C
Vapour density	Not determined
Relative density	Not determined
Solubility(ies)	Density: 1.085 - 1.095 g/ml at 20°C Solubility of imidacloprid at 20°C in: isopropanol 1.2 g/l n-hexane < 0.1 g/l water 0.61 g/l
Partition coefficient n-octanol/water	Imidacloprid : $\log K_{ow} = 0.57$ at 20°C
Autoignition temperature	Not determined
Decomposition temperature	Not determined
Viscosity	1500 – 2500 mPa.s
Explosive properties.....	Not explosive
Oxidising properties	Not oxidising

9.2. Other information

Miscibility	The product is miscible with water.
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SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity	To our knowledge, the product has no special reactivities.
10.2. Chemical stability	The product is stable during normal handling and storage at ambient temperatures.
10.3. Possibility of hazardous reactions	None known.
10.4. Conditions to avoid	Heating of the product will produce harmful and irritant vapours.
10.5. Incompatible materials	None known.
10.6. Hazardous decomposition products	See subsection 5.2.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects	* = Based on available data, the classification criteria are not met.
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Product

Acute toxicity	The product is not considered as harmful by single exposure. * The acute toxicity of the product is estimated as:
Route(s) of entry - ingestion	LD ₅₀ , oral, rat: > 2000 mg/kg
- skin	LD ₅₀ , dermal, rat: > 4000 mg/kg
- inhalation	LC ₅₀ , inhalation, rat: > 5 mg/l/4 h
Skin corrosion/irritation	Not expected to be irritating to skin. *
Serious eye damage/irritation	May be slightly irritating to eyes. *
Respiratory or skin sensitisation ...	The product is not expected to be sensitising to skin. *
Germ cell mutagenicity	The product contains no ingredient known to be mutagenic. *
Carcinogenicity	The product contains no ingredient known to be carcinogenic. *
Reproductive toxicity	The product contains no ingredient found to have adverse effects on reproduction. *
STOT – single exposure	To our knowledge, specific effects after single exposure have not been observed. *
STOT – repeated exposure	The following has been found for the active ingredient imidacloprid: NOAEL: 150/600 ppm, equivalent to 14.0 mg/kg bw/day for males and 83.3 mg/kg bw/day for females, based on decreased body weight gain at 600 ppm (males) and 2400 ppm (females) and functional changes in the liver at 2400 ppm in females (method OECD 408). *
Aspiration hazard	The product does not present an aspiration pneumonia hazard. *
Symptoms and effects, acute and delayed	Gastrointestinal discomfort, tremors and difficulty breathing were noted on exposure to similar but more concentrated formulations.

Imidacloprid

Toxicokinetics, metabolism and distribution	Imidacloprid is rapidly absorbed following oral administration. It is widely distributed in the body. The metabolism rate is high. Elimination is fast and complete. There is no indication of bioaccumulation.
Acute toxicity	The substance is harmful by ingestion, but not considered as harmful by inhalation or dermal contact. The acute toxicity of imidacloprid is measured as:
Route(s) of entry - ingestion	LD ₅₀ , oral, rat (male): 379 - 648 mg/kg (method OECD 401)
- skin	LD ₅₀ , dermal, rat: > 5000 mg/kg (method OECD 402) *
- inhalation	LC ₅₀ , inhalation, rat: > 0.069 mg/l/4 h (method OECD 403)

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Skin corrosion/irritation	Not irritating to skin (method OECD 404). *
Serious eye damage/irritation	Not irritating to eyes (method OECD 405). *
Respiratory or skin sensitisation ...	Not a skin sensitizer (method OECD 406). *
<u><i>1,2-Benzisothiazol-3(2H)-one</i></u>	
Acute toxicity	The substance is harmful by ingestion.
Route(s) of entry - ingestion	LD ₅₀ , oral, rat (male): 670 mg/kg LD ₅₀ , oral, rat (female): 784 mg/kg (method OPPTS 870.1100; measured on 73% solution)
- skin	LD ₅₀ , dermal, rat: > 2000 mg/kg * (method OPPTS 870.1200 measured on 73% solution)
- inhalation	LC ₅₀ , inhalation, rat: not available
Skin corrosion/irritation	Slightly irritating to skin (method OPPTS 870.2500).
Serious eye damage/irritation	Severely irritating to eyes (method OPPTS 870.2400).
Respiratory or skin sensitisation ...	Moderate dermal sensitizer to guinea pigs (method OPPTS 870.2600). The substance appears to be significantly more sensitising to humans.

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. **Toxicity** The product is very toxic to bees. It may be toxic to other species of insects or related organisms. The product is harmful to birds and soil macroorganisms, but is not considered as harmful to fish, daphnids, and aquatic plants. It may have short-term effects on soil microorganisms, but no significant long-term effects have been observed.

The ecotoxicity of the active ingredient imidacloprid is:

- Fish	Rainbow trout (<i>Salmo gairdneri</i>)	96-h LC ₅₀ : 211 mg/l 21-day NOEC: 28.5 mg/l
	Bluegill sunfish (<i>Lepomis macrochirus</i>)	96-h LC ₅₀ : > 105 mg/l
- Invertebrates	Daphnids (<i>Daphnia magna</i>)	48-h EC ₅₀ : 85 mg/l 21-day NOEC: 1.8 mg/l
	Amphipods (<i>Hyalella azteca</i>)	96-h LC ₅₀ : 0.526 mg/l
	Mysid shrimp (<i>Mysidopsis bahia</i>)	96-h LC ₅₀ : 0.0341 mg/l
- Algae	Green algae (<i>Pseudokirchneriella subcapitata</i>)	72-h IC ₅₀ : > 100 mg/l
- Earthworms	<i>Eisenia foetida foetida</i>	14-day LC ₅₀ : 10.7 mg/kg dry soil
- Birds	Japanese quail (<i>Coturnix coturnix japonica</i>)	LD ₅₀ : 31 mg/kg 5-day dietary LD ₅₀ : 2225 ppm in feed



- Bees	Honey bees (<i>Apis mellifera</i>)	48-h LD ₅₀ , acute oral: 0.0037 µg/bee 48-h LD ₅₀ , topical: 0.0081 µg/bee
- Bacteria	Activated sludge	IC ₅₀ : > 10000 mg/kg

- ## ♣ SECTION 13: DISPOSAL CONSIDERATIONS

- | | |
|--|---|
| 13.1. Waste treatment methods | <p>Remaining quantities of the material and empty but unclean packaging should be regarded as hazardous waste.</p> <p>Disposal of waste and packagings must always be in accordance with all applicable local regulations.</p> |
| Disposal of product | <p>According to the Waste Framework Directive (2008/98/EC), possibilities for reuse or reprocessing should first be considered. If this is not feasible, the material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing.</p> <p>Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.</p> |
| Disposal of packaging | <p>It is recommended to consider possible ways of disposal in the following order:</p> <ol style="list-style-type: none"> 1. Reuse or recycling should first be considered. Reuse is prohibited except by the authorisation holder. If offered for recycling, containers must be emptied and triply rinsed (or equivalent). Do not discharge rinsing water to sewer systems. 2. Controlled incineration with flue gas scrubbing is possible for |

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combustible packaging materials.

3. Delivery of the packaging to a licensed service for disposal of hazardous waste.

4. Disposal in a landfill or burning in open air should only occur as a last resort. For disposal in a landfill containers should be emptied completely, rinsed and punctured to make them unusable for other purposes. If burned, stay out of smoke.

♣ SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

- 14.1. **UN number** 3082
- 14.2. **UN proper shipping name** Environmentally hazardous substance, liquid, n.o.s. (imidacloprid)
- 14.3. **Transport hazard class(es)** 9
- 14.4. **Packing group** III
- 14.5. **Environmental hazards** Marine pollutant
- 14.6. **Special precautions for user** Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment.
- 14.7. **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code** The product is not transported in bulk by ship.

SECTION 15: REGULATORY INFORMATION

- 15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture** Seveso category (Dir. 2012/18/EU): dangerous for the environment
 All ingredients are covered by EU chemical legislation.
- 15.2. **Chemical safety assessment** A chemical safety assessment is not required to be included for this product.

♣ SECTION 16: OTHER INFORMATION

Relevant changes in the safety data sheet Minor corrections only.

List of abbreviations

CAS	Chemical Abstracts Service
Dir.	Directive
DNEL	Derived No Effect Level
EC	European Community
EC ₅₀	50% Effect Concentration
EINECS	European INventory of Existing Commercial Chemical Substances
ELINCS	European LIst of Notified Chemical Substances

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GHS	Globally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013
IBC	International Bulk Chemical code
IC ₅₀	50% Inhibition Concentration
ISO	International Organisation for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	50% Lethal Concentration
LD ₅₀	50% Lethal Dose
MARPOL	Set of rules from the International Maritime Organisation (IMO) for prevention of sea pollution
NOAEL	No Observed Adverse Effect Level
NOEC	No Observed Effect Concentration
n.o.s.	Not otherwise specified
OECD	Organisation for Economic Cooperation and Development
OPPTS	Office of Prevention, Pesticides and Toxic Substances
PBT	Persistent, Bioaccumulative, Toxic
PNEC	Predicted No Effect Concentration
Reg.	Regulation
STOT	Specific Target Organ Toxicity
vPvB	very Persistent, very Bioaccumulative
WHO	World Health Organisation

References	Data on ingredients are available from published literature and can be found several places.
Method for classification	Calculation method
Used hazard statements	H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H318 Causes serious eye damage. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects. EUH208 Contains 1,2-benzisothiazol-3(2H)-one. May produce an allergic reaction. EUH401 To avoid risks to human health and the environment, comply with the instructions of use.
Advice on training	This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Corporation / Cheminova A/S / GHB