

Safety data sheet

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BASF Safety data sheet according to Regulation (EC) No. 1907/2006

Date / Revised: 30.07.2013

Version: 2.0

Product: **ARSENAL GEN 2**

(ID no. 30451967/SDS_CPA_EU/EN)

Date of print 01.08.2013

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

ARSENAL GEN 2

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: crop protection product, herbicide

1.3. Details of the supplier of the safety data sheet

Company:

BASF SE

67056 Ludwigshafen

GERMANY

Operating Division Crop Protection

Telephone: +49 621 60-27777

E-mail address: Produktinformation-Pflanzenschutz@basf.com

1.4. Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No 1272/2008 [CLP]

| Skin Sens. 1

| Aquatic Chronic 3

According to Directive 67/548/EEC or 1999/45/EC

Possible Hazards:

May cause sensitization by skin contact.

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

For the classifications not written out in full in this section the full text can be found in section 16.

2.2. Label elementsGlobally Harmonized System, EU (GHS)

Pictogram:



Signal Word:

Warning

Hazard Statement:

H317

May cause an allergic skin reaction.

H412

Harmful to aquatic life with long lasting effects.

EUH401

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

Precautionary Statements (Prevention):

P280c

Wear protective gloves.

P272

Contaminated work clothing should not be allowed out of the workplace.

P261d

Avoid breathing vapours.

Precautionary Statements (Response):

P302 + P352

IF ON SKIN: Wash with plenty of soap and water.

P333 + P313

If skin irritation or rash occurs: Get medical advice/attention.

P363

Wash contaminated clothing before reuse.

Precautionary Statements (Disposal):

P501

Dispose of contents/container to hazardous or special waste collection point.

According to Regulation (EC) No 1272/2008 [CLP]

Hazard determining component(s) for labelling: IMAZAPYR

According to Directive 67/548/EEC or 1999/45/EC

EEC Directives

Hazard symbol(s)

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Xi Irritant.



R-phrase(s)

R43

May cause sensitization by skin contact.

R52/53

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrase(s)

S2

Keep out of the reach of children.

S13

Keep away from food, drink and animal feeding stuffs.

S20/21

When using do not eat, drink or smoke.

S24

Avoid contact with skin.

S37

Wear suitable gloves.

S46

If swallowed, seek medical advice immediately and show this container or label.

Hazard determining component(s) for labelling: IMAZAPYR

2.3. Other hazardsAccording to Regulation (EC) No 1272/2008 [CLP]

See section 12 - Results of PBT and vPvB assessment.

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.

SECTION 3: Composition/Information on Ingredients**3.1. Substances**

Not applicable

3.2. MixturesChemical nature

Contains: imazapyr isopropylamine salt

Hazardous ingredients (GHS)

according to Regulation (EC) No. 1272/2008

| imazapyr, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 H-imidazol-2-yl]-3-pyridine carboxylate

Content (W/W): 22.6 %

Eye Dam./Irrit. 2

CAS Number: 81334-34-1

Aquatic Chronic 3

INDEX-Number: 613-126-00-1

H319, H412

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| 2-aminopropane; isopropylamine

Content (W/W): < 10 %

CAS Number: 75-31-0

EC-Number: 200-860-9

REACH registration number: 01-2119463274-39

INDEX-Number: 612-007-00-1

Flam. Liq. 1

Acute Tox. 3 (Inhalation - vapour)

Acute Tox. 3 (oral)

Acute Tox. 3 (dermal)

Skin Corr./Irrit. 2

Eye Dam./Irrit. 2

STOT SE 3 (irr. to respiratory syst.)

H224, H319, H315, H311, H331, H301, H335

H224, H311, H331, H301, H335, H314

| phosphoric acid...%, orthophosphoric acid...%

Content (W/W): < 5 %

CAS Number: 7664-38-2

EC-Number: 231-633-2

REACH registration number: 01-2119485924-24

INDEX-Number: 015-011-00-6

Met. Corr. 1

Skin Corr./Irrit. 1B

H290, H314

| Propane-1,2-diol

Content (W/W): < 5 %

CAS Number: 57-55-6

EC-Number: 200-338-0

REACH registration number: 01-2119456809-23

Hazardous ingredients

according to Directive 1999/45/EC

| imazapyr, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 H-imidazol-2-yl]-3-pyridine carboxylate

Content (W/W): 22.6 %

CAS Number: 81334-34-1

INDEX-Number: 613-126-00-1

Hazard symbol(s): Xi

R-phrases: 36, 52/53

| 2-aminopropane; isopropylamine

Content (W/W): < 10 %

CAS Number: 75-31-0

EC-Number: 200-860-9

REACH registration number: 01-2119463274-39

INDEX-Number: 612-007-00-1

Hazard symbol(s): F+, T

R-phrases: 12, 20/21, 25, 36/37/38

| phosphoric acid...%, orthophosphoric acid...%
Content (W/W): < 5 %
CAS Number: 7664-38-2
EC-Number: 231-633-2
| REACH registration number: 01-2119485924-24
INDEX-Number: 015-011-00-6
Hazard symbol(s): C
R-phrases(s): 34

| Propane-1,2-diol
Content (W/W): < 5 %
| CAS Number: 57-55-6
| EC-Number: 200-338-0
| REACH registration number: 01-2119456809-23

For the classifications not written out in full in this section, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, the full text is listed in section 16.

SECTION 4: First-Aid Measures

4.1. Description of first aid measures

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

On skin contact:

| Wash thoroughly with soap and water.

On contact with eyes:

| Wash affected eyes for at least 15 minutes under running water with eyelids held open.

On ingestion:

| Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

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

Symptoms: The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11., Further important symptoms and effects are so far not known.

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

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing media

Suitable extinguishing media:

water spray, carbon dioxide, foam, dry powder

5.2. Special hazards arising from the substance or mixture

carbon monoxide, Carbon dioxide, nitrogen oxides

The substances/groups of substances mentioned can be released in case of fire.

5.3. Advice for fire-fighters

Special protective equipment:

Wear self-contained breathing apparatus and chemical-protective clothing.

Further information:

In case of fire and/or explosion do not breathe fumes. Keep containers cool by spraying with water if exposed to fire. Collect contaminated extinguishing water separately, do not allow to reach sewage or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

SECTION 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Avoid contact with the skin, eyes and clothing. Do not breathe vapour/spray.

6.2. Environmental precautions

Do not discharge into the subsoil/soil. Do not discharge into drains/surface waters/groundwater.

6.3. Methods and material for containment and cleaning up

For small amounts: Pick up with suitable absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr).

For large amounts: Dike spillage. Pump off product.

Dispose of absorbed material in accordance with regulations. Collect waste in suitable containers, which can be labeled and sealed. Clean contaminated floors and objects thoroughly with water and detergents, observing environmental regulations.

6.4. Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: Handling and Storage

7.1. Precautions for safe handling

No special measures necessary if stored and handled correctly. Ensure thorough ventilation of stores and work areas. When using do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift.

Protection against fire and explosion:

Vapours may form ignitable mixture with air. Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

7.2. Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

Further information on storage conditions: Keep away from heat. Protect from direct sunlight.

Storage stability:

Storage duration: 24 Months

7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

SECTION 8: Exposure Controls/Personal Protection

8.1. Control parameters

Components with occupational exposure limits

57-55-6: Propane-1,2-diol

75-31-0: 2-aminopropane; isopropylamine

7664-38-2: phosphoric acid...%, orthophosphoric acid...%

TWA value 1 mg/m³ (OEL (EU))

indicative

STEL value 2 mg/m³ (OEL (EU))

indicative

8.2. Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for higher concentrations or long-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g. EN 14387 Type ABEK).

Hand protection:

Suitable chemical resistant safety gloves (EN 374) also with prolonged, direct contact

(Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) and other

Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures

The statements on personal protective equipment in the instructions for use apply when handling crop-protection agents in final-consumer packing. Wearing of closed work clothing is recommended. Store work clothing separately. Keep away from food, drink and animal feeding stuffs.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Form:	liquid
Colour:	transparent light yellow
Odour:	odourless
Odour threshold:	
pH value:	not applicable, odour not perceivable approx. 6 - 8 (25 °C)
Freezing point:	approx. 0 °C (1,013.3 hPa)
Boiling point:	Information applies to the solvent. approx. 100 °C (1,013.3 hPa)
Flash point:	Information applies to the solvent.
Evaporation rate:	A flash point determination is unnecessary due to the high water content.
Flammability:	not applicable
Lower explosion limit:	not highly flammable
Upper explosion limit:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Ignition temperature:	As a result of our experience with this product and our knowledge of its composition we do not expect any hazard as long as the product is used appropriately and in accordance with the intended use.
Vapour pressure:	Based on the water content the product does not ignite. approx. 23.3 hPa (20 °C) Information applies to the solvent.

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Density: approx. 1.10 g/cm³
(20 °C)
Relative vapour density (air):
not determined
Solubility in water: miscible
Partitioning coefficient n-octanol/water (log Kow):
not applicable
Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic: 163.2 mPa.s
(20 °C)
Explosion hazard: Based on the water content the
product has no explosive properties.
Fire promoting properties: Based on its structural properties
the product is not classified as
oxidizing.

9.2. Other information

Other Information:

If necessary, information on other physical and chemical parameters is indicated in this section.

SECTION 10: Stability and Reactivity

10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: Corrosive effect on: brass mild steel

10.2. Chemical stability

The product is stable if stored and handled as prescribed/indicated.

10.3. Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

10.4. Conditions to avoid

See MSDS section 7 - Handling and storage.

10.5. Incompatible materials

Substances to avoid:

strong oxidizing agents, strong bases, strong acids

10.6. Hazardous decomposition products

Hazardous decomposition products:

No hazardous decomposition products if stored and handled as prescribed/indicated.

SECTION 11: Toxicological Information

11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Virtually nontoxic after a single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact.

Experimental/calculated data:

LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 423)

LC50 rat (by inhalation): > 5.5 mg/l 4 h

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

LD50 rabbit (dermal): > 5,000 mg/kg (OECD Guideline 402)

Irritation

Assessment of irritating effects:

Not irritating to the skin. Not irritating to the eyes.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: non-irritant

Respiratory/Skin sensitization

Assessment of sensitization:

Sensitization after skin contact possible.

Experimental/calculated data:

modified Buehler test guinea pig: Caused skin sensitization in animal studies. (OECD Guideline 406)

Germ cell mutagenicity

Assessment of mutagenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Mutagenicity tests revealed no genotoxic potential.

Carcinogenicity

Assessment of carcinogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of various animal studies gave no indication of a carcinogenic effect.

Reproductive toxicity

Assessment of reproduction toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity

Assessment of teratogenicity:

The product has not been tested. The statement has been derived from the properties of the individual components. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:

The product has not been tested. The statement has been derived from the properties of the individual components. No substance-specific organotoxicity was observed after repeated administration to animals.

Other relevant toxicity information

Misuse can be harmful to health.

SECTION 12: Ecological Information

12.1. Toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. May cause long-term adverse effects in the aquatic environment.

Toxicity to fish:

LC50 (96 h) > 120 mg/l, *Cyprinus carpio*

Aquatic invertebrates:

EC50 (48 h) > 100 mg/l, *Daphnia magna*

Aquatic plants:

EC50 (72 h) > 98 mg/l, *Pseudokirchneriella subcapitata*

12.2. Persistence and degradability

Assessment biodegradation and elimination (H₂O):

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: imazapyr, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 H-imidazol-2-yl]-3-pyridine carboxylate

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

12.3. Bioaccumulative potential

Assessment bioaccumulation potential:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: imazapyr, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 H-imidazol-2-yl]-3-pyridine carboxylate

Bioaccumulation potential:

Bioconcentration factor: < 1.0, Lepomis macrochirus

Does not accumulate in organisms.

12.4. Mobility in soil

Assessment transport between environmental compartments:

The product has not been tested. The statement has been derived from the properties of the individual components.

Information on: imazapyr, 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1 H-imidazol-2-yl]-3-pyridine carboxylate

Assessment transport between environmental compartments:

The substance will not evaporate into the atmosphere from the water surface.

Following exposure to soil, the product trickles away and can - dependant on degradation - be transported to deeper soil areas with larger water loads.

12.5. Results of PBT and vPvB assessment

The product does not contain a substance fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

12.6. Other adverse effects

The product does not contain substances that are listed in Annex I of Regulation (EC) 2037/2000 on substances that deplete the ozone layer.

12.7. Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

SECTION 13: Disposal Considerations

13.1. Waste treatment methods

Must be sent to a suitable incineration plant, observing local regulations.

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Contaminated packaging:

Contaminated packaging should be emptied as far as possible and disposed of in the same manner as the substance/product.

SECTION 14: Transport Information

Land transport

ADR

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

RID

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Inland waterway transport

ADN

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known
Transport in inland waterway vessel:	Not evaluated

Sea transport

IMDG

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	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

Air transport

IATA/ICAO

	Not classified as a dangerous good under transport regulations
UN number:	Not applicable
UN proper shipping name:	Not applicable
Transport hazard class(es):	Not applicable
Packing group:	Not applicable
Environmental hazards:	Not applicable
Special precautions for user	None known

14.1. UN number

See corresponding entries for "UN number" for the respective regulations in the tables above.

14.2. UN proper shipping name

See corresponding entries for "UN proper shipping name" for the respective regulations in the tables above.

14.3. Transport hazard class(es)

See corresponding entries for "Transport hazard class(es)" for the respective regulations in the tables above.

14.4. Packing group

See corresponding entries for "Packing group" for the respective regulations in the tables above.

14.5. Environmental hazards

See corresponding entries for "Environmental hazards" for the respective regulations in the tables above.

14.6. Special precautions for user

See corresponding entries for "Special precautions for user" for the respective regulations in the tables above.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Regulation:	Not evaluated
Shipment approved:	Not evaluated
Pollution name:	Not evaluated

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Pollution category:	Not evaluated
Ship Type:	Not evaluated

SECTION 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

15.2. Chemical Safety Assessment

Advice on product handling can be found in sections 7 and 8 of this safety data sheet.

SECTION 16: Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

Full text of the classifications, including the indication of danger, the hazard symbols, the R phrases, and the hazard statements, if mentioned in section 2 or 3:

Xi	Irritant.
F+	Extremely flammable.
T	Toxic.
C	Corrosive.
36	Irritating to eyes.
52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
12	Extremely flammable.
20/21	Harmful by inhalation and in contact with skin.
25	Toxic if swallowed.
36/37/38	Irritating to eyes, respiratory system and skin.
34	Causes burns.
Skin Sens.	Skin sensitization
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Eye Dam./Irrit.	Serious eye damage/eye irritation
Flam. Liq.	Flammable liquid
Acute Tox.	Acute toxicity
Skin Corr./Irrit.	Skin corrosion/irritation
STOT SE	Specific target organ toxicity — single exposure
Met. Corr.	Substance or mixture corrosive to metals
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.
H224	Extremely flammable liquid and vapour.
H315	Causes skin irritation.
H311	Toxic in contact with skin.
H331	Toxic if inhaled.
H301	Toxic if swallowed.
H335	May cause respiratory irritation.

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H314	Causes severe skin burns and eye damage.
H290	May be corrosive to metals.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. The data do not describe the product's properties (product specification). Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.

Vertical lines in the left hand margin indicate an amendment from the previous version.