

Safety data sheet

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BASF Safety data sheet according to UN GHS 4th rev.

Date / Revised: 02.12.2022

Version: 1.0

Product: **Arsenal® Gen 2**

(ID no. 30451967/SDS_CPA_ZA/EN)

Date of print 03.10.2024

1. Identification

Product identifier

Arsenal® Gen 2

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

Relevant identified uses: crop protection product, herbicide

Details of the supplier of the safety data sheet

Company:

BASF South Africa (Pty) Ltd
852 Sixteenth Road
Midrand
P O Box 2801
Halfway House 1685
SOUTH AFRICA

Telephone: +27 11 203 2400

Emergency telephone number

National emergency number:

+27 11 203 2420

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Skin Sens. 1

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

Label elements

Globally Harmonized System (GHS)

Pictogram:



Signal Word:
Warning

Hazard Statement:

H317 May cause an allergic skin reaction.

Precautionary Statement:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read carefully and follow all instructions.

Precautionary Statements (Prevention):

P280 Wear protective gloves.

P261 Avoid breathing mist or vapour or spray.

P272 Contaminated work clothing should not be allowed out of the workplace.

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 attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Disposal):

P501 Dispose of contents and container to hazardous or special waste collection point.

Other hazards

According to UN GHS criteria

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.

3. Composition/Information on Ingredients

Substances

Not applicable

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Mixtures

Chemical nature

herbicide, crop protection product, Soluble concentrate (SL)

Hazardous ingredients (GHS)

According to UN GHS criteria

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

| | |
|---|--------------------|
| Content (W/W): 21.82 % | Eye Dam./Irrit. 2B |
| CAS Number: 81334-34-1 | Aquatic Acute 3 |
| REACH registration number: 01-2120754127-55 | H320, H402 |
| INDEX-Number: 613-126-00-1 | |

Oxirane, methyl-, polymer with oxirane, mono-C10-16-alkyl ethers, phosphates

| | |
|------------------------|------------------------|
| Content (W/W): < 25 % | Acute Tox. 5 (oral) |
| CAS Number: 68649-29-6 | Skin Corr./Irrit. 2 |
| | Eye Dam./Irrit. 1 |
| | Aquatic Acute 2 |
| | H318, H315, H303, H401 |

Isopropylamine

| | |
|----------------------------|--|
| Content (W/W): < 15 % | Flam. Liq. 1 |
| CAS Number: 75-31-0 | Acute Tox. 3 (Inhalation - vapour) |
| EC-Number: 200-860-9 | Acute Tox. 3 (oral) |
| INDEX-Number: 612-007-00-1 | Acute Tox. 3 (dermal) |
| | Skin Corr./Irrit. 1A |
| | Eye Dam./Irrit. 1 |
| | STOT SE 3 (irr. to respiratory syst.) |
| | Aquatic Acute 3 |
| | H224, H335, H314, H301 + H311 + H331, H402 |

Orthophosphoric acid

| | |
|----------------------------|----------------------|
| Content (W/W): < 10 % | Met. Corr. 1 |
| CAS Number: 7664-38-2 | Acute Tox. 4 (oral) |
| EC-Number: 231-633-2 | Skin Corr./Irrit. 1B |
| INDEX-Number: 015-011-00-6 | Eye Dam./Irrit. 1 |
| | H290, H302, H314 |

Specific concentration limit:

Skin Corr./Irrit. 1B: \geq 25 %
Eye Dam./Irrit. 2: 10 - < 25 %
Skin Corr./Irrit. 2: 10 - < 25 %

Propane-1,2-diol

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Content (W/W): < 5 %
CAS Number: 57-55-6
EC-Number: 200-338-0

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4. First-Aid Measures

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.

Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., (Further) symptoms and / or effects are not known so far

Indication of any immediate medical attention and special treatment needed

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

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:
water spray, carbon dioxide, foam, dry powder

Special hazards arising from the substance or mixture

Carbon monoxide, Carbon dioxide, Hydrogen chloride, nitrogen oxides, halogenated compounds, Phosphorus compounds
The substances/groups of substances mentioned can be released in case of fire.

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

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or effluent systems. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

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

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. Wear suitable protective equipment.

7. Handling and Storage

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:

No special precautions necessary. The substance/product is non-combustible. Product is not explosive.

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

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.

8. Exposure Controls/Personal Protection

Control parameters

Components with occupational exposure limits

No occupational exposure limits known.

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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 ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc.

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.

9. Physical and Chemical Properties

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) Information applies to the solvent. |
| Boiling point: | approx. 100 °C (1,013.3 hPa) Information applies to the solvent. |
| Flash point: | A flash point determination is unnecessary due to the high water content. |
| Evaporation rate: | |
| Flammability: | not applicable |

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| | |
|---|--|
| Lower 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. |
| 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: | Based on the water content the product does not ignite. |
| Vapour pressure: | approx. 23.3 hPa (20 °C) |
| Density: | Information applies to the solvent. approx. 1.10 g/cm ³ (20 °C) |
| Relative vapour density (air): | not applicable |
| 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. |

Other information

Other Information:

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

10. Stability and Reactivity

Reactivity

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

Corrosion to metals: Corrosive effect on: brass mild steel

Chemical stability

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

Possibility of hazardous reactions

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

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Conditions to avoid

See SDS section 7 - Handling and storage.

Incompatible materials

Substances to avoid:
strong oxidizing agents, strong bases, strong acids

Hazardous decomposition products

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

11. Toxicological Information

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)
No mortality was observed.

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)
No mortality was observed.

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: sensitizing (OECD Guideline 406)

Germ cell mutagenicity

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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.

Specific target organ toxicity (single exposure)

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

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

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.

Information on: Isopropylamine

Assessment of repeated dose toxicity:

After repeated exposure the prominent effect is local irritation.

Information on: Orthophosphoric acid

Assessment of repeated dose toxicity:

The substance may lead to shifts in blood composition following repeated exposure in animal experiments.

Aspiration hazard

No aspiration hazard expected.

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

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Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms.

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) > 100 mg/l, *Pseudokirchneriella subcapitata*

No observed effect concentration 25 mg/l, *Pseudokirchneriella subcapitata*

EC10 (72 h) 75.8 mg/l, *Pseudokirchneriella subcapitata*

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

Assessment biodegradation and elimination (H₂O):

Not readily biodegradable (by OECD criteria).

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

Bioaccumulation potential:

*Bioconcentration factor: < 1.0, *Lepomis macrochirus**

Does not accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments:

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Adsorption in soil: The product has not been tested. The statement has been derived from the properties of the individual components.

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

Assessment transport between environmental compartments:

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

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

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.

Other adverse effects

The product does not contain substances that are listed in the Montreal Protocol on substances that deplete the ozone layer.

Additional information

Other ecotoxicological advice:

Do not discharge product into the environment without control.

13. Disposal Considerations

Waste treatment methods

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

Contaminated packaging:

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

14. Transport Information

Land transport

ADR

Not classified as a dangerous good under transport regulations

UN number or ID 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

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RID

Not classified as a dangerous good under transport regulations

| | |
|------------------------------|----------------|
| UN number or ID 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 or ID 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**

Not classified as a dangerous good under transport regulations

| | |
|------------------------------|----------------|
| UN number or ID 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 or ID 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 |

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

15. Regulatory Information

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

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

16. Other Information

Full text of classifications, hazard symbols and hazard statements, if mentioned in section 2 or 3:

| | |
|--------------------|--|
| Skin Sens. | Skin sensitization |
| Eye Dam./Irrit. | Serious eye damage/eye irritation |
| Aquatic Acute | Hazardous to the aquatic environment - acute |
| Acute Tox. | Acute toxicity |
| Skin Corr./Irrit. | Skin corrosion/irritation |
| Flam. Liq. | Flammable liquids |
| STOT SE | Specific target organ toxicity — single exposure |
| Met. Corr. | Corrosive to metals |
| H320 | Causes eye irritation. |
| H402 | Harmful to aquatic life. |
| H318 | Causes serious eye damage. |
| H315 | Causes skin irritation. |
| H303 | May be harmful if swallowed. |
| H401 | Toxic to aquatic life. |
| H224 | Extremely flammable liquid and vapour. |
| H335 | May cause respiratory irritation. |
| H314 | Causes severe skin burns and eye damage. |
| H301 + H311 + H331 | Toxic if swallowed, in contact with skin or if inhaled |
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |

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. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. 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.