

Safety data sheet

Page: 1/14

W. Rosenstein Ltd. Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 4.0

Product: **Pulsar® 40 SL**

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

1. Identification

Product identifier

Pulsar® 40 SL

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:

W. Rosenstein Ltd.

13 Zarhin Street

Ra'anana 4366241, ISRAEL

Telephone: 972-9-9718800

E-mail address: wrl-productsafety@wrl-ltd.com

Emergency telephone number

International emergency number:

Telephone: +49 180 2273-112

2. Hazards Identification

Classification of the substance or mixture

According to UN GHS criteria

Repr. 2 (unborn child)

Aquatic Acute 1

Aquatic Chronic 1

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

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Label elements

Globally Harmonized System (GHS)

Pictogram:



Signal Word:
Warning

Hazard Statement:

H361	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

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, protective clothing and eye protection or face protection.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.

Precautionary Statements (Response):

P391	Collect spillage.
P308 + P313	IF exposed or concerned: Get medical attention.

Precautionary Statements (Storage):

P405	Store locked up.
------	------------------

Precautionary Statements (Disposal):

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

Labeling of special preparations (GHS):

May produce an allergic reaction. Contains: 1,2-Benzisothiazol-3(2H)-one

According to UN GHS criteria

Hazard determining component(s) for labelling: imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid

Other hazards

According to UN GHS criteria

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

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

Mixtures

Chemical nature

crop protection product, herbicide, Soluble concentrate (SL)

Hazardous ingredients (GHS)

According to UN GHS criteria

imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid

Content (W/W): 3,71 %
CAS Number: 114311-32-9

Repr. 2 (unborn child)
Aquatic Acute 1
Aquatic Chronic 1
M-factor acute: 10
M-factor chronic: 10
H361, H400, H410

Ammonia, aqueous solution

Content (W/W): < 0,5 %
CAS Number: 1336-21-6
EC-Number: 215-647-6
INDEX-Number: 007-001-01-2

Skin Corr./Irrit. 1B
Eye Dam./Irrit. 1
STOT SE 3 (irr. to respiratory syst.)
Aquatic Acute 1
Aquatic Chronic 2
H335, H314, H411, H400

Specific concentration limit:
STOT SE 3, irr. to respiratory syst.: >= 5 %

1,2-Benzisothiazol-3(2H)-one

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Content (W/W): < 0,05 %
CAS Number: 2634-33-5
EC-Number: 220-120-9
INDEX-Number: 613-088-00-6

Acute Tox. 4 (oral)
Skin Corr./Irrit. 2
Eye Dam./Irrit. 1
Skin Sens. 1
Aquatic Acute 1
Aquatic Chronic 1
M-factor acute: 1
M-factor chronic: 1
H318, H315, H302, H317, H400, H410

Specific concentration limit:
Skin Sens. 1: >= 0,05 %

Propane-1,2-diol

Content (W/W): < 20 %
CAS Number: 57-55-6
EC-Number: 200-338-0

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

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

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

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, sulfur oxides

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 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.

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: 60 Months

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Protect from temperatures below: -5 °C
Changes in the properties of the product may occur if substance/product is stored below indicated temperature for extended periods of time.
Protect from temperatures above: 35 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

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 substance specific occupational exposure limits known.

Exposure controls

Personal protective equipment

Respiratory protection:

Suitable respiratory protection for lower concentrations or short-term effect: Combination filter for gases/vapours of organic, inorganic, acid inorganic, alkaline compounds and toxic particles (e. g. EN 14387 Type ABEK-P3)

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: colourless to yellowish

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 4.0

Product: **Pulsar® 40 SL**

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Odour:	nutty	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
pH value:	approx. 4 - 6 (20 °C) (measured with the undiluted substance)	
Melting point:	< 0 °C	
Boiling point:	approx. 100 °C	
Flash point:	Information applies to the solvent.	
Evaporation rate:	Non-flammable.	
Flammability:	not applicable	
Lower explosion limit:	not applicable	
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:	422 °C	(Directive 92/69/EEC, A.15)
Vapour pressure:	approx. 23 hPa (20 °C)	
Density:	Information applies to the solvent. approx. 1,08 g/cm ³ (20 °C)	
Relative vapour density (air):	not applicable	
Solubility in water:	fully soluble	
Partitioning coefficient n-octanol/water (log Kow):	not applicable	
Thermal decomposition:	190 °C, 250 kJ/kg (onset temperature) Not a substance liable to self-decomposition according to UN transport regulations, class 4.1.	
Viscosity, dynamic:	109,0 mPa.s (21 °C)	(OECD 114)
Explosion hazard:	not explosive	(Directive 92/69/EEC, A.14)
Fire promoting properties:	not fire-propagating	(Directive 2004/73/EC, A.21)

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.

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.

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

Experimental/calculated data:

LD50 rat (oral): > 5.000 mg/kg (OECD Guideline 401)

No mortality was observed.

LC50 rat (by inhalation): > 6,6 mg/l 4 h (OECD Guideline 403)

No mortality was observed. An aerosol was tested.

LD50 rat (dermal): > 4.000 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)

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Serious eye damage/irritation rabbit: non-irritant (Guideline 92/69/EEC, B.5)

Respiratory/Skin sensitization

Assessment of sensitization:
There is no evidence of a skin-sensitizing potential.

Experimental/calculated data:
Guinea pig maximization test guinea pig: Non-sensitizing. (Guideline 92/69/EEC, B.6)

Germ cell mutagenicity

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

Carcinogenicity

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

Reproductive toxicity

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

Developmental toxicity

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

Information on: imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid

Assessment of teratogenicity:

Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

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.

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

| *Information on: Ammonia, aqueous solution*
| *Assessment of repeated dose toxicity:*
After repeated administration the prominent effect is the induction of corrosion.

Aspiration hazard

No aspiration hazard expected.
The product has not been tested. The statement has been derived from the properties of the individual components.

Other relevant toxicity information

Misuse can be harmful to health.

12. Ecological Information

Toxicity

Assessment of aquatic toxicity:
Very toxic to aquatic life with long lasting effects.

Toxicity to fish:
LC50 (96 h) > 100 mg/l, *Oncorhynchus mykiss* (OECD 203; ISO 7346; 92/69/EEC, C.1)

Aquatic invertebrates:
LC50 (48 h) > 100 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)

Aquatic plants:
ErC50 (7 d) 0,52 mg/l (growth rate), *Lemna gibba* (OECD guideline 221, static)

ErC50 (7 d) 0,098 mg/l (growth rate), *Lemna gibba*

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: imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid

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: imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Bioaccumulation potential:

Bioconcentration factor: < 1, Lepomis macrochirus (OECD-Guideline 305)

Does not accumulate in organisms.

Mobility in soil

Assessment transport between environmental compartments:

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

Information on: imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid

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

UN number or ID number: UN3082

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 4.0

Product: **Pulsar® 40 SL**

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (IMAZAMOX 4%)

Transport hazard class(es): 9, EHS
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

RID

UN number or ID number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (IMAZAMOX 4%)

Transport hazard class(es): 9, EHS
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Inland waterway transport

ADN

UN number or ID number: UN3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (IMAZAMOX 4%)

Transport hazard class(es): 9, EHS
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Transport in inland waterway vessel

Not evaluated

Sea transport

IMDG

UN number or ID number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (IMAZAMOX 4%)

Transport hazard class(es): 9, EHS
Packing group: III
Environmental hazards: yes
Marine pollutant: YES
Special precautions for user: EmS: F-A; S-F

Safety data sheet according to UN GHS 4th rev.
Date / Revised: 22.03.2023
Product: **Pulsar® 40 SL**

Version: 4.0

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

Air transport

IATA/ICAO

UN number or ID number: UN 3082
UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S. (IMAZAMOX 4%)

Transport hazard class(es): 9, EHS
Packing group: III
Environmental hazards: yes
Special precautions for user: None known

Maritime transport in bulk according to IMO instruments

Maritime transport in bulk is not intended.

Further information

Product may be shipped as non-hazardous in suitable packages containing a net quantity of 5 L or less under the provisions of various regulatory agencies: ADR, RID, ADN: Special Provision 375; IMDG: 2.10.2.7; IATA: A197; TDG: Special Provision 99(2); 49CFR: §171.4 (c) (2) and also the Special Provision 375 in Appendix B which is regulated in China "Regulations Concerning Road Transportation of Dangerous Goods Part 3: Index of dangerous goods name and transportation requirements" (JT/T 617.3)

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:

Repr.	Reproductive toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute
Aquatic Chronic	Hazardous to the aquatic environment - chronic
Skin Corr./Irrit.	Skin corrosion/irritation
Eye Dam./Irrit.	Serious eye damage/eye irritation
STOT SE	Specific target organ toxicity — single exposure
Acute Tox.	Acute toxicity
Skin Sens.	Skin sensitization
H361	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H335	May cause respiratory irritation.
H314	Causes severe skin burns and eye damage.

Safety data sheet according to UN GHS 4th rev.

Date / Revised: 22.03.2023

Version: 4.0

Product: **Pulsar® 40 SL**

(ID no. 30364048/SDS_CPA_IL/EN)

Date of print 01.03.2024

H411	Toxic to aquatic life with long lasting effects.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.

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.