

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

1.1 Product identifier

Trade name: Astron

UFI: P600-D0D7-300C-5S1V

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

Application of the substance / the mixture Foliar Nutrient

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:

TURF Handels GmbH

Am Hartboden 48

A-8101 Gratkorn

T: +43 3124 29064

F: +43 3124 29062

Further information obtainable from: Email: office@turf.at

1.4 Emergency telephone number:

+43 3124 29064

Available during office hours:

Mo - Th: 8 a.m. - 4.30 p.m.

Fr: 8 a.m. - 2.30 p.m.

Call the national emergency number!

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Skin Irrit. 2 H315 Causes skin irritation.

Eye Dam. 1 H318 Causes serious eye damage.

Repr. 1B H360FD May damage fertility. May damage the unborn child.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Additional information: For the wording of the hazard categories, see section 16.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

Hazard pictograms



GHS05



GHS08

Signal word Danger

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Hazard-determining components of labelling:

malonic acid
boric acid

Hazard statements

H315 Causes skin irritation.
H318 Causes serious eye damage.
H360FD May damage fertility. May damage the unborn child.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements

P201 Obtain special instructions before use.
P280 Wear protective gloves / eye protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

Restricted to professional users.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: The mixture does not contain PBT substances $\geq 0,1$ %.
vPvB: The mixture does not contain vPvB substances $\geq 0,1$ %.




SECTION 3: Composition/information on ingredients

3.2 Mixtures

Description: Mixture of substances listed below with nonhazardous additions.

Dangerous components:





[% (w/w)]

CAS: 7720-78-7 EINECS: 231-753-5 Index number: 026-003-00-7 RTECS: NO 8510000 Reg.nr.: 01-2119513203-57-XXXX	iron sulphate  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319 Aquatic Chronic 3, H412	5 – 10%
CAS: 141-82-2 EINECS: 205-503-0 RTECS: OO 0175000	malonic acid  Eye Dam. 1, H318	1 – 5%
CAS: 10043-35-3 EINECS: 233-139-2 Index number: 005-007-00-2 RTECS: ED 4550000 Reg.nr.: 01-2119486683-25-XXXX	boric acid  Repr. 1B, H360FD	3 – 4%

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CAS: 546-46-3 EINECS: 208-901-2	Trizinc dicitrate  Aquatic Acute 1, H400; Aquatic Chronic 2, H411  Eye Irrit. 2, H319	1 – 2%
CAS: 7758-98-7 EINECS: 231-847-6 Index number: 029-004-00-0 RTECS: GL 8800000	copper sulphate  Aquatic Acute 1, H400 (M=10); Aquatic Chronic 1, H410 (M=1)  Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319	1 – 2%

SVHC

CAS: 10043-35-3 | boric acid

Additional information: For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information:

In case of discomfort or doubt, seek medical advice.
 If unconscious, use a stable lateral position and do not administer anything through mouth.

After inhalation:

Supply fresh air; consult doctor in case of complaints.
 In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately wash with water and soap and rinse thoroughly.
 Take off contaminated clothing and wash it before reuse.
 Seek medical treatment.

After eye contact:

Rinse opened eye for several minutes under running water.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 Consult an ophthalmologist or eye clinic immediately.

After swallowing:

Rinse mouth.
 Do NOT induce vomiting.
 If the patient is conscious, give small amounts of water to drink.
 Call a doctor immediately.
 Never administer anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye damage.
 Causes skin irritation.
 Ingestion may cause nausea and diarrhoea.

4.3 Indication of any immediate medical attention and special treatment needed

Depending on the condition of the patients, the doctor must assess the symptoms and the overall general condition.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.

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For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:

CO_x, SO_x

Metal Oxides/Oxides

5.3 Advice for firefighters

Protective equipment:

Wear self-contained respiratory protective device.

Wear fully protective suit.

Additional information Cool endangered receptacles with water spray.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Restricted access to the affected area until cleaning work is completed.

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid contact with skin and eyes.

Do not breathe vapour/spray.

6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding, inert material (sand, diatomite, acid binders, universal binders).

Dispose of the material collected according to regulations.

Clean again.

Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only outdoors or in a well-ventilated area.

Keep receptacles tightly sealed.

Open and handle receptacle with care.

Avoid contact with skin and eyes.

Avoid breathing mist/vapours/spray.

Eye wash bottles and emergency showers should be provided in the immediate area near the workplace.

Use personal protective equipment as required.

Observe protective measures and safety instructions.

Information about fire - and explosion protection: Keep respiratory protective device available.

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7.2 Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles:

Store in dry conditions.

Store receptacle in a well ventilated area.

Store in accordance with local/regional/national/international regulations.

Information about storage in one common storage facility:

Store away from foodstuffs.

Store away from feeding stuff.

Store away from oxidising agents.

Further information about storage conditions:

Keep container tightly sealed.

Protect from frost.

Protect container from damage.

Recommended storage temperature: room temperature

Storage class: 6.1 D

7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

CAS: 7720-78-7 iron sulphate

LEP (Spain)	Long-term value: 1 mg/m ³ c, como Fe
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WEL (Great Britain)	Short-term value: 2 mg/m ³ Long-term value: 1 mg/m ³ as Fe
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CAS: 10043-35-3 boric acid

AGW (Germany)	Long-term value: 0.5* mg/m ³ 2(I);*einatembar; AGS, Y, 10
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LEP (Spain)	Short-term value: 6 mg/m ³ Long-term value: 2 mg/m ³ TR1B, s, r
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TWA (Italy)	Short-term value: 6 mg/m ³ Long-term value: 2 mg/m ³ (i), A4
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Regulatory information

LEP (Spain): Límites de exposición profesional para agentes químicos

WEL (Great Britain): EH40/2020

AGW (Germany): TRGS 900

TWA (Italy): Valori Limite di Soglia

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DNELs		
CAS: 7720-78-7 iron sulphate		
Oral	Long-term exposure - systemic effects	0.28 mg/kg bw/d (consumer)
Dermal	Long-term exposure - systemic effects	1.4 mg/kg bw/d (consumer)
		2.8 mg/kg bw/d (workers)
CAS: 10043-35-3 boric acid		
Dermal	Long-term exposure - systemic effects	392 mg/kg bw/d (workers)
Inhalative	Long-term exposure - systemic effects	8.3 mg/m ³ (workers)
PNECs		
CAS: 10043-35-3 boric acid		
fresh water	2.9 mg/l	
sea water	2.9 mg/l	
STP	10 mg/l	
soil	5.7 mg/kg dw	

Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

Appropriate engineering controls

No further data; see section 7.

Technical measures and the use of suitable working methods take priority over the use of personal protective equipment.

Individual protection measures, such as personal protective equipment

General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Do not eat or drink while working.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Immediately remove all soiled and contaminated clothing.

Store protective clothing separately.

Avoid breathing mist/vapours/spray.

Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of the hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the respective supplier.

Eye wash bottles and emergency showers should be provided in the immediate area near the workplace.

Respiratory protection:

If vapours/aerosols and/or inadequate ventilation are present, respiratory protection must be worn.

Hand protection



Protective gloves

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EN 374

The glove material has to be impermeable and resistant to the product/ the substance/ the mixture.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Eye/face protection



Tightly sealed goggles

EN 166

Body protection: Protective work clothing

Environmental exposure controls

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General Information

Physical state	Fluid
Colour:	Black
Odour:	Sweetish
Odour threshold:	No information available.
Melting point/freezing point:	No information available.
Boiling point or initial boiling point and boiling range	104 – 110 °C
Flammability	Product is not flammable.
Lower and upper explosion limit	
Lower:	No information available.
Upper:	No information available.
Flash point:	Not applicable.
Decomposition temperature:	No information available.
pH at 20 °C	4.8
Viscosity:	
Kinematic viscosity	No information available.
Dynamic:	No information available.

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Solubility

water: Fully miscible.

Partition coefficient n-octanol/water (log value)

10043-35-3	boric acid	-1,09 log Kow
546-46-3	Trizinc dicitrate	-0,2 - -1,8 log Kow

Vapour pressure: Not determined.

Density and/or relative density

Density at 20 °C: 1.18 g/cm³

Vapour density No information available.

9.2 Other information

Appearance:

Form: Fluid

Important information on protection of health and environment, and on safety.

Ignition temperature: Product is not selfigniting.

Explosive properties: Product does not present an explosion hazard.

Change in condition

Softening point/range

Oxidising properties No information available.

Evaporation rate No information available.

Information with regard to physical hazard classes

Explosives	void
Flammable gases	void
Aerosols	void
Oxidising gases	void
Gases under pressure	void
Flammable liquids	void
Flammable solids	void
Self-reactive substances and mixtures	void
Pyrophoric liquids	void
Pyrophoric solids	void
Self-heating substances and mixtures	void
Substances and mixtures, which emit flammable gases in contact with water	void
Oxidising liquids	void
Oxidising solids	void
Organic peroxides	void
Corrosive to metals	void
Desensitised explosives	void

SECTION 10: Stability and reactivity

10.1 Reactivity No hazardous reactions known if stored and used as prescribed.

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10.2 Chemical stability No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions No dangerous reactions known.

10.4 Conditions to avoid High temperatures

10.5 Incompatible materials: oxidizing agent

10.6 Hazardous decomposition products:

No decomposition if used and stored according to specifications.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity Based on available data, the classification criteria are not met.

LD/LC50 values relevant for classification:

Oral	LD50	3,831 mg/kg (ATE)
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CAS: 7720-78-7 iron sulphate

Oral	LD50	500 mg/kg (rat)
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CAS: 141-82-2 malonic acid

Oral	LD50	2,750 mg/kg (rat)
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CAS: 10043-35-3 boric acid

Oral	LD50	3,450 mg/kg (rat)
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Dermal	LD50	> 2,000 mg/kg (Rabbit)
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CAS: 7758-98-7 copper sulphate

Oral	LD50	300 mg/kg (rat)
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Quelle: Europäische Chemikalienagentur <http://www.echa.eu>

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation Causes serious eye damage.

Respiratory or skin sensitisation Based on available data, the classification criteria are not met.

Germ cell mutagenicity Based on available data, the classification criteria are not met.

Carcinogenicity Based on available data, the classification criteria are not met.

Reproductive toxicity May damage fertility. May damage the unborn child.

STOT-single exposure Based on available data, the classification criteria are not met.

STOT-repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Based on available data, the classification criteria are not met.

11.2 Information on other hazards

Endocrine disrupting properties

None of the ingredients is listed.

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SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity:

CAS: 10043-35-3 boric acid

EC50 (48 h)	133 mg/l (daphnia) (Daphnia magna) ECOTOX Database
LC50 (96 h)	50 – 100 mg/l (fish) (Onchorhynchus mykiss) ECOTOX Database

12.2 Persistence and degradability

For inorganic substances/products, the methods for determining biodegradability are not applicable.

546-46-3	Trizinc dicitrate	97 % (28 d)
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12.3 Bioaccumulative potential

10043-35-3	boric acid	-1,09 log Kow
546-46-3	Trizinc dicitrate	-0,2 - -1,8 log Kow

12.4 Mobility in soil No further relevant information available.

12.5 Results of PBT and vPvB assessment

PBT: The mixture does not contain PBT substances $\geq 0,1$ %.

vPvB: The mixture does not contain vPvB substances $\geq 0,1$ %.

12.6 Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

12.7 Other adverse effects

Remark: Harmful to fish

Additional ecological information:

General notes:

Harmful to aquatic life with long lasting effects.

Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Only dispose of product residues via authorised companies according to local legislation.

European waste catalogue

Notes: The European Waste Catalogue (EWC) classifies waste materials and categorises them according to what they are and how they were produced. This may cause other classifications. The final decision belongs to the last user.

02 01 08*	agrochemical waste containing hazardous substances
HP10	Toxic for reproduction
HP14	Ecotoxic

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Uncleaned packaging:

Recommendation:

Dispose of packaging according to regulations on the disposal of packagings.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

SECTION 14: Transport information

14.1 UN number or ID number

ADR/RID/ADN, IMDG, IATA not regulated

14.2 UN proper shipping name

ADR/RID/ADN, IMDG, IATA not regulated

14.3 Transport hazard class(es)

ADR/RID/ADN, ADN, IMDG, IATA

Class not regulated

14.4 Packing group

ADR/RID/ADN, IMDG, IATA not regulated

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for user Not applicable.

14.7 Maritime transport in bulk according to IMO instruments Not applicable.

UN "Model Regulation": not regulated

SECTION 15: Regulatory information

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

Directive 2012/18/EU

Named dangerous substances - ANNEX I None of the ingredients is listed.

REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3, 30

DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

REGULATION (EU) 2019/1148

Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))

None of the ingredients is listed.

Annex II - REPORTABLE EXPLOSIVES PRECURSORS

None of the ingredients is listed.

Regulation (EC) No 273/2004 on drug precursors

None of the ingredients is listed.

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Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors

None of the ingredients is listed.

National regulations:

Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57

CAS: 10043-35-3 boric acid

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Relevant phrases

- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H318 Causes serious eye damage.
- H319 Causes serious eye irritation.
- H360FD May damage fertility. May damage the unborn child.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.
- H412 Harmful to aquatic life with long lasting effects.

Training hints

Before handling, storage or use for the first time, employees must be informed about the properties of the substance and about measures taken to ensure safety and environmental protection.

Classification according to Regulation (EC) No 1272/2008

Skin corrosion/irritation
Serious eye damage/irritation
Reproductive toxicity
Hazardous to the aquatic environment - long-term (chronic) aquatic hazard

The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Department issuing SDS:

UmEnA GmbH

<http://umena.at>

Email: office@umena.at

Date of previous version: 20.04.2023

Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

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IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

DNEL: Derived No-Effect Level (REACH)

PNEC: Predicted No-Effect Concentration (REACH)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Acute Tox. 4: Acute toxicity – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Repr. 1B: Reproductive toxicity – Category 1B

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3