

Page 1 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

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

1.1. Product identifier

Commercial name: SYSTACAL PLUS

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

Identified uses: Fertilizer (Agriculture).

Uses advised against: Not identified.

1.3. Details of the supplier of the safety data sheet

TRADE CORPORATION INTERNATIONAL, S.A.UNIPERSONAL.

c/ Alcalá, 498 - 2nd floor 28027 - Madrid (Spain)

Telephone: +34 91 327 32 00 Fax: +34 91 304 71 72

E-mail: sds@tradecorp.sapec.pt

Tradecorp APAC PTY LTD, Level 1, 225 George Street Sydney NSW 2000 (Australia) Telephone: 0448 016 025

E-mail: australia@tradecorp.sapec.pt

1.4. Emergency telephone number

Tradecorp telephone (9h-17h CET): +34 91 327 32 00.

CHEMTREC International emergency number (24h): +1 703-741-5970.

CHEMTREC Australia (Sydney) + (61)-290372994

2. SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification in accordance with European Regulation (EC) No. 1272/2008:

H314; Skin Corrosion (Category 1A)

H318; Serious Eye Damage (Category 1)

H360FD; Reproductive toxicity (Category 1B)

H290; Metal Corrosion (Category 1)

2.2. Label elements



Page 2 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

Hazard pictogram(s):





Signal word(s): Danger

Hazard statement(s): H360FD: May damage fertility. May damage the unborn child.

H314: Causes severe skin burns and eye damage.

H290: May be corrosive to metals

Precautionary statement(s): P202: Do not handle until all safety precautions have been read and understood.

P264: Wash the exposed skin thoroughly after handling.

P280: Wear protective gloves, protective clothing, eyes and face protection. P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated

clothing. Rinse skin with water (or shower).

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.

2.3. Other hazards

Contains boric acid, candidate list SVHC substance.

3. SECTION 3: Composition/information on ingredients

3.1 Substance

Not applicable.

3.2 Mixture

Product identifier: SYSTACAL PLUS

The mixture contains the following dangerous substance:

Name	CAS No.	EC No.	REACH Registration No.	Concentration in the mixture	Classification according EC Reg. No. 1272/2008
Calcium dihydrogenphosphite	13780-04-6	-	01-2120754132-64	< 60%	Eye Dam. 1.; H318
Boric Acid	10043-35-3	233-139-2	01-2119486683-25	< 16%	Repr 1B H360FD
Phosphorous acid	13598-36-2	237-066-7	01-2119488030-46	< 8%	Acute Tox. 4, H302 Skin Corr. 1A, H314 Met. Corr. 1; H290 Eye Dam. 1; H318



Page 3 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

Full text of H and P phrases: See section 16

4. SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:

Keep patient at rest and maintain body temperature. Remove the victim to a ventilated area. Get medical attention. Give symptomatic and supportive treatment, if required.

Skin contact:

After contact with skin, remove contaminated clothing and wash immediately with plenty of water and soap. If irritation develops, seek medical attention.

Eye contact:

Immediately wash affected eyes for at least 15 minutes, taking care to rinse under eyelids. Consult an eye specialist.

Ingestion:

Rinse mouth with water. Get medical attention and show the label or packaging. Do not induce vomiting. If vomiting occurs, keep victim's head below hips to prevent aspiration.

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

No data available.

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

All treatments should be based on observed signs and symptoms.

5. SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media: chemical powder, CO2, water spray or alcohol resistant foam. Unsuitable extinguishing media: Direct water spurt (water jet).

5.2. Special hazards arising from the substance or mixture

Possibility of exposure to toxic combustion products.

Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for fire-fighters



Page 4 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus and personal protective equipment.

6. SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Isolate and delimit the affected area.

Eliminate all sources of ignition.

Use personal protective equipment and respiratory protection.

Avoid contact with skin and eyes.

Evacuate personnel to safe areas.

Ensure adequate ventilation.

6.2. Environmental precautions

Prevent the product reaches the sewer.

Prevent soil contamination.

6.3. Methods and material for containment and cleaning up

Sweep up spilled avoiding dust formation.

For the product impossible to sweep up, apply water and collect with inert absorbent materials (eg soil, sand, diatomaceous earth or any non-flammable absorbent).

Store unusable material collected in adequate containers for disposal. Label these containers and manage in accordance with local regulations.

Do not mix with other waste materials.

If there are spills or uncontrolled discharges on surface waters (or water for public use), immediately inform the local authorities.

6.4. Reference to other sections

See Sections 8 and 13.

7. SECTION 7: Handling and storage

7.1. Precautions for safe handling

See also Section 8.

Use personal protective equipment (PPE). Avoid contact with skin, eyes and clothing.

Ensure adequate ventilation.

Do not handle the product near a source of ignition or near open flame.

Do not smoke, drink or eat while handling the product.

Wash hands with soap after handling and before eating, drinking, smoking or using the toilet.

Remove clothing immediately if the product is inside. Wash skin thoroughly with mild soap and dress clean clothes.

7.2. Conditions for safe storage, including any incompatibilities



Page 5 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

Do not store near or with any of the incompatible materials listed in Section 10.

Do not store with food, beverages, feed and water supplies.

Do not store near flame, heat sources or near strong oxidizing agents.

Avoid extreme temperatures.

Store the product in the original container.

Keep tightly closed containers in a dry, cool and well ventilated sheltered from the sun.

Keep out of reach of unauthorized persons, children and animals.

7.3. Specific end use(s)

See section 1.2.

8. SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Boric acid (10043-35-3)

Derived no effect levels (DNEL):

DNEL / DMEL (Workers)

Long term - systemic, skin effects 392 mg / kg bw / day

Long term - systemic effects, inhalation 8.28 mg / m³

DNEL / DMEL (Population in general)

Acute - systemic effects, oral 0.98 mg / kg bw

Long term - systemic effects, oral 0.98 mg / kg bw / day

Long term - systemic effects, inhalation 4.15 mg / m³

Long term - systemic, skin effects 196 mg / kg bw / day

Predicted concentration without effect (PNEC):

PNEC (Water)

PNEC aqua (fresh water) 2.02 mg B / L

PNEC aqua (seawater) 2.02 mg B / L

PNEC (Earth)

PNEC soil 5.4 mg B / kg dry soil

PNEC (STP)

PNEC purification plant 10 mg B / L

PNEC (Additional information)

Intermittent discharges 13.7 mg B / L

Phosphorous acid (13598-36-2)

Derived no effect levels (DNEL):

DNEL / DMEL (Workers)

Long term - systemic, skin effects 0.83 mg / kg bw / day

Long term - systemic effects, inhalation 2.94 mg / m³

DNEL / DMEL (Population in general)

Long term - systemic effects, oral 0.42 mg / kg bw / day

Long term - systemic effects, inhalation 0.72 mg / m³

Long term - systemic, skin effects 0.42 mg / kg bw / day

Predicted concentration without effect (PNEC):



Page 6 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

PNEC (Water)

PNEC aqua (fresh water) 153 μg/L PNEC aqua (seawater) 15.3 μg/L

PNEC water (intermittent emissions): 1.53 mg/L

PNEC (Earth)

PNEC sediment: No adsorption of the product is expected in sediment

PNEC soil: No adsorption of the product is expected in soil

PNEC (STP)

PNEC purification plant: No data available

PNEC (Additional information)

PNEC oral: No potential bioaccumulation

Phosphonic acid, calcium salt (13780-04-6)

Derived no effect levels (DNEL):

DNEL / DMEL (Workers)

Long term - systemic, skin effects 49,5 mg / kg bw / day Long term - systemic effects, inhalation 34,6 mg / m³

DNEL / DMEL (Population in general)

Long term - systemic effects, oral 2,5 mg / kg bw / day Long term - systemic effects, inhalation 8,7 mg / m³ Long term - systemic, skin effects 24,7 mg / kg bw / day

8.2. Exposure controls

8.2.1 Proper technical controls

See also Section 7.

Ensure adequate ventilation and/or exhaust ventilation. Handling can generate dust. Avoid breathing dust.

8.2.2 Individual protective measures

Respiratory protection: Use breathing mask with appropriate filter.

Hand protection: Use protection gloves.

Eye protection: Wear safety glasses with side-shields (e.g. EN 166) or facial protection screen.

Skin and body protection: Work clothes, apron and protective boots are recommended.

Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Have eye wash bottle with distilled water. Remove and wash contaminated clothing before reuse. Wash hands before breaks and immediately after handling.

8.2.3 Environmental exposure controls

Do not flush into surface waters or sanitary drain systems.

9. SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance: Solid-Powder

Colour: White



Page 7 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

Odour: Not aplicable

Odour threshold: Not applicable

pH: 3,5 - 1,5 (1% water solution)

Melting point: No data available

Boiling point: No data available

Evaporation rate:No data available

Flash point: Not applicable

Decomposition temperature: No data available

Auto-ignition temperature: Not applicable

Flammability: Not applicable

Explosive properties: Not applicable

Oxidizing properties: No data available

Vapour pressure: No data available

Vapour density: No data available

Viscosity: Not aplicable

Density: 0,95 - 0,39 g/cm3

Solubility: 100 g/l 25°C water

Partition coefficient n-octanol/water (log Pow): No data available

9.2. Other information

No data available.

10. SECTION 10: Stability and reactivity

10.1. Reactivity

The product is not reactive under normal conditions.

10.2. Chemical stability

The product is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.



Page 8 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

10.3. Possibility of hazardous reactions

No hazard reactions are expected under normal processing.

10.4. Conditions to avoid

Avoid exposure to moisture.

Avoid extreme temperatures.

Avoid heat sources.

10.5. Incompatible materials

Aluminum

10.6. Hazardous decomposition products

No data available.

11. SECTION 11: Toxicological information

11.1. Information on toxicological effects

(a) Acute toxicity: The product is not acute toxic

Boric acid (10043-35-3)

LD50 oral rats 2000 - 5000 mg/kg bw (OCDE 401 - LD50 oral male and female rats is 3.450 mg/kg bw and 4080 mg/kg bw)

LD50 dermal rabbit > 2000 mg/kg (guidelines FIFRA - very slight absorption through intact skin) LC50 inhalation rat (fog/dust - mg/l/4h) > 2 mg/l/4 h (OCDE 403)

Phosphorous acid (13598-36-2)

LD50 oral rat (male): 1580 mg/kg bw

Phosphonic acid, calcium salt (13780-04-6)

LD50 Acute Oral rat > 1683 mg Ca(H2PO3)2 /kg bw (read across from potassium Phosphonate KH2PO3/K2HPO3 - EU Method B.1)

LD50 Acute Dermal rat > 4206 mg Ca(H2PO3)2 /kg bw (read across Potassium Phosphonate KH2PO3/K2HPO3 - OECD Guideline 402)

(b) Skin corrosion/irritation: The product is skin corrosive

Phosphorous acid (13598-36-2)

The substance is classified a skin corrosion 1A

(c) Eye damage/irritation: The product is eye corrosive

Phosphonic acid, calcium salt (13780-04-6)



Page 9 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

The substance is classified a severe eye irritant based on in vitro test (inconclusive - OECD Guideline 438; EU method B.48) and its low pH (<2).

- (d) Respiratory or skin sensitization: the product is not respiratory or dermal sensitizer
- (e) CMR Carcinogenicity, Mutagenicity and Reproductive toxicity: the product is toxic for reproduction

Phosphorous acid (13598-36-2)

Mutagenicity:

Ames Test negative (Method OECD 471)

In vitro negative micronucleus assay (OECD 487)

Local Lymphatic Nodule Test (LLNA) negative (Method OECD 476)

Reproductive toxicity:

No adverse effects on fertility (NOAEL: 250 mg / kg bw / day (subacute, rat)

No adverse effects for development No adverse effects for reproduction

(f) STOT - single and repeated exposure:

Phosphorous acid (13598-36-2)

Repeated exposure – No adverse effects observed (NOAEL: 250 mg / kg bw / day) (Method OECD 422, subacute, rat)

(g) Aspiration hazard: No data available.

12. SECTION 12: Ecological information

12.1. Toxicity

(a) Aquatic toxicity: Not classified

Boric acid (10043-35-3)

LC50 fish 80 mg B/L (Pimephales promelas) and 627 mg B/L (Onchorhynchus tschawytscha) EC50 Daphnia 113 mg B/L (Ceriodaphnia dubia) and 1376 mg B/L (Chironomus decorus) CEr50 (seaweed) 10 mg B/L (Chlorella pyrenoidosa) and 28 mg B/L (Selenastrum capricornutum)

Phosphorous acid (13598-36-2)

LC50 (fish) (Cyprinus carpio) = 100 mg/L

EC50/LC50 in aquatic invertebrates (Daphnia magna) = 1000 mg/L EC50/LC50 (seaweed) (Pseudokirchneriella subcapitata) = 153 mg/L

(b) Sediment toxicity: No data available.

(c) Terrestrial toxicity: No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential



Page 10 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

13. SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste materials at a licensed site.

Rinse with water the used containers three times and empty the water into the application tank. Do not burn containers, even after use. Disable the used packaging and dispose of content and/or empty containers in accordance with local, regional, national, and/or international regulations.

14. SECTION 14: Transport information

ADR	IMDG	IATA	ADN	RID				
14.1. UN number								
3260	3260	3260	3260	3260				
14.2. Official trans	14.2. Official transport description of the United Nations							
SOLID CORROSIVE, ACID, INORGANIC, N.E.P.	SOLID CORROSIVE, ACID, INORGANIC, N.E.P.	Corrosive solid, acidic, inorganic, n.o.s.	SOLID CORROSIVE, ACID, INORGANIC, N.E.P.	SOLID CORROSIVE, ACID, INORGANIC, N.E.P.				
Description of the	transport documen	t						
UN 3260 CORROSIVE SOLID, ACID, INORGANIC, N.E.P. (Phosphonic acid), 8, I,	UN 3260 CORROSIVE SOLID, ACID, INORGANIC, N.E.P. (Phosphonic acid), 8, I,	UN 3260 Corrosive solid, acidic, inorganic, n.o.s. (phosphonic acid), 8, I	UN 3260 CORROSIVE SOLID, ACID, INORGANIC, N.E.P. (Phosphonic acid), 8, I,	UN 3260 CORROSIVE SOLID, ACID, INORGANIC, N.E.P. (Phosphonic acid), 8, I,				
14.3. Transport hazard class(es)								
8	8	8	8	8				
		3						
14.4. Packing group								
1	I	I	1	I				



Page 11 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

14.5. Environmental hazards						
Dangerous for the environment: No	Dangerous for the environment: No Marine Pollutant: No	Dangerous for the environment: No	Dangerous for the environment: No	Dangerous for the environment: No		
Not additional information available						

14.6. Special precautions for user

- Land transport

Classification code (ADR): C2 Special Provisions (ADR): 274 Limited quantities (ADR): 0 Excepted amounts (ADR): E0

Packaging instructions (ADR): P002, IBC07

Special provisions concerning common packaging (ADR): MP18 Instructions for portable tanks and bulk containers (ADR): T6

Special provisions for portable tanks and bulk containers (ADR): TP33

Tank Code (ADR): S10AN Vehicle for transport in tank: AT Transport category (ADR): 1

Special transport provisions - Packages (ADR): V10

Special transport arrangements - Loading, unloading and handling (ADR): S20

N ° Danger (Kemler code): 88

Orange panel:



Tunnel restriction code (ADR): E

- Marine Transport

Special Provisions (IMDG): 274
Limited quantities (IMDG): 0
Excepted amounts (IMDG): E0
Packing instructions (IMDG): P002
Packaging instructions GRG (IMDG): IBC07
Special packing provisions (IMDG): B1
Instructions for tanks (IMDG): T6
Special provisions for tanks (IMDG): TP33

No. FS (Fire): F-A N. ° FS (Spill): S-B Load category (IMDG): B

Properties and observations (IMDG): Causes burns to skin, eyes and mucous membranes.

- Air Transport

Amounts exempted for passenger and cargo aircraft (IATA): E0 Limited quantities for passenger and cargo aircraft (IATA): Forbidden

Maximum net quantity for limited quantity in passenger and cargo aircraft (IATA): Forbidden

Packing instructions for passenger and cargo aircraft (IATA): 858 Maximum net quantity for passenger and cargo aircraft (IATA): 1kg

Packing instructions exclusively for cargo aircraft (IATA): 862

Max. net exclusively for cargo aircraft (IATA): 25kg

Special Provisions (IATA): A3

GRE code (IATA): 8L



Page 12 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

- River Transport

Classification code (ADN): C2 Special Provisions (ADN): 274 Limited quantities (AND) 0 Excepted amounts (ADN): E0 Required equipment (ADN): PP, EP Number of cones / blue lights (ADN): 0

- Rail Transport

Classification code (RID): C2 Special Provisions (RID): 274 Limited quantities (RID): 0 Excepted amounts (RID): E0

Packing instructions (RID): P002, IBC07

Special provisions concerning common packaging (RID): MP18 Instructions for portable tanks and bulk containers (RID): T6

Special provisions for portable tanks and bulk containers (RID): TP33

Tank codes for RID tanks (RID): S10AN

Transport category (RID): 1

Special transport provisions - Packages (RID): W10

Hazard identification number (RID): 88

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable

15. SECTION 15: Regulatory information

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

- European Regulation (EC) No.1272/2008 on classification, labelling and packaging of substances and mixtures.
- European Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
- Commission Regulation (EU) No. 2015/830, amending Regulation (EC) No. 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
- Contains a substance from the list of candidate substances of REACH in a concentration ≥ 0.1% or with a lower specific limit: boric acid (EC 233-139-2, CAS 10043-35-3)
- Regulation (EU) No. 109/2012 REACH Annex XVII: reserved exclusively for professional users. It is only allowed to use this substance in consumer products when it has not been resolved.
- Hazardous Substances Information System (HSIS Safe Work Australia).
- Approved Criteria for Classifying Hazardous Substances [NOHSC:1008(2004)] 3rd Edition.
- National Model Regulations for the Control of Workplace Hazardous Substances [NOHSC:1005(1994)].
- List of Designated Hazardous Substances (NOHSC).



Page 13 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for this product.

16. SECTION 16: Other information

Revision of this safety data sheet:

Revision number: 6.0 Supersedes: 5.0

Added, deleted or revised information: Sections: 2, 3, 8, 9, 10, 11, 12, 14, and 16 according to Annex II of

regulation (EU) 2015/830.

Legend to abbreviations:

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

IATA: International Air Transport Association.

ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.2

IMDG: International Maritime Dangerous Goods.

PBT: Persistent, Bioaccumulative and Toxic.

RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.

STOT: Specific Target Organ Toxicity.

vPvB: Very Persistent and very Bioaccumulative.

Key literature references and sources for data:

ESIS: European Chemical Substances Information System.

ECHA: European Chemicals Agency: http://echa.europa.eu/

Classification and Labelling Inventory Database: http://echa.europa.eu/web/guest/information-on-chemicals/clinventory-database

Institute for Health and Consumer Protection (European Commission): http://ihcp.jrc.ec.europa.eu/

Instituto Nacional de Seguridad e Higiene en el Trabajo: http://www.insht.es

Safe Work Australia - HSIS Navigation: http://hsis.ascc.gov.au/SearchHS.aspx

List of relevant hazard statements and/or precautionary statements:



Page 14 of 14
Issuing date: 23/11/2010
Revision No.: 6.0
Revision date: 21/01/2018
Supersedes: 5.0

Hazard statement:

H290: May be corrosive to metals;

H314: Causes severe skin burns and eye damage

H318: Causes serious eye damage.

H360FD: May damage fertility. May damage the unborn child.

Precautionary statement:

P202: Do not handle until all safety precautions have been read and understood.

P264: Wash the exposed skin thoroughly after handling

P280: Wear protective gloves, protective clothing, eyes and face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower).

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.

The content and format of this safety data sheet are in accordance with the current applicable legislation.

DISCLAMER OF LIABILITY:

The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable.