

Trace Elements & Related Chemicals

————— for —————

Broadacre, Fertigation & Animal Health

Product Specification Booklet



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Product Specification

Product Name: AMMONIUM SULFATE CAPRO 0-2mm

Alternate Name(s)

Description

White or off-white fine crystal.

Properties

Chemical Formula: $(\text{NH}_4)_2\text{SO}_4$

Molecular Weight: 132.14

Product Code: AT346

CAS No. 7783-20-2

General Information:

Hazard and Safety Data

UN Group: None Allocated

Class: None Allocated

UN Number: None Allocated

Hazchem code: None Allocated

CS MSDS Code:

Poison schedule: Not scheduled

Emergency

Procedure Guide No.: None Allocated

Quality Specification

Assay:

Specific Properties and Impurities [Typical levels]:

Appearance	Crystal
Nitrogen content	≥ 21.0%
Moisture	≤ 0.2%
Free acid	≤ 0.03%
Heavy metals	≤ 0.005%
Water-insoluble matter	≤ 0.01%
Arsenic (As)	≤ 0.00005%
Iron (Fe)	≤ 0.007%

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Product Specification

Product Name: CALCIUM NITRATE Granular TG

Alternate Name(s)

Description

Properties

Chemical Formula: $5\text{Ca}(\text{NO}_3)_2 \cdot \text{NH}_4\text{NO}_3 \cdot 10\text{H}_2\text{O}$

Molecular Weight: 1080.71

Product Code: CT585

CAS No. 13477-34-4

General Information:

Hazard and Safety Data

UN Group: III
 Class: 5.1
 UN Number: 1454
 Hazchem code: 1Z
 CS MSDS Code:
 Poison schedule: Not Scheduled
 Emergency
 Procedure Guide No.: 31

Quality Specification

Assay: 76 % min.

Specific Properties and Impurities [Typical levels]:

Calcium	18.5 % min.
Nitrogen	15.5 % min.
Calcium oxide	26 % min.
Ammonium nitrate	≥ 1.1 %
Nitrate nitrogen	≥ 14.4 %
Mesh size (2 - 5mm)	90 % min.
Water insoluble	≤ 0.1 %
pH	5 - 7
Iron	≤ 0.005 %
Chloride	≤ 0.02 %

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Rev. No: 3



Product Specification

Product Name: CITRIC ACID Anhydrous BP, FCC (10-40 mesh)

Alternate Name(s) 2-Hydroxy-1,2,3-propanetricarboxylic acid; beta-hydroxytricarballic acid.

Description

Free flowing, colourless, translucent crystals.

Properties

Chemical Formula: $C_6H_8O_7$

Molecular Weight: 192.13

Product Code: CP013

CAS No. 77-92-9

General Information:

Soluble in water (162g/100ml at 25°C) and in alcohol (59.1g/100ml at 25°C).
Incompatible with oxidising agents.

Hazard and Safety Data

UN Group: None Allocated
Class: None Allocated
UN Number: None Allocated
Hazchem code: None Allocated
CS MSDS Code: 1CH1Y
Poison schedule: Not Scheduled
Emergency
Procedure Guide No.: N/A

Quality Specification

Assay: 99.5 - 101.0%

Specific Properties and Impurities [Typical levels]:

Identification	Passes test
Readily carbonizable substances	Passes test
Water (H ₂ O)	≤ 0.5%
Residue on ignition	≤ 0.05%
Chloride (Cl)	≤ 0.005%
Sulfate (SO ₄)	≤ 0.015%
Oxalate (C ₂ O ₄)	≤ 0.01%
Heavy metals (as Pb)	≤ 0.0005%
Aluminium (Al)	≤ 0.00002%
Arsenic (As)	≤ 0.0001%
Barium (Ba)	Passes test
Calcium (Ca)	≤ 0.005%
Iron (Fe)	≤ 0.0005%
Lead (Pb)	≤ 0.00005%
Mercury (Mg)	≤ 0.0001%
Bacterial endotoxin	≤ 0.5 IU/mg

CONFORMS TO BP, FCC

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Product Specification

Product Name: COBALT(II) SULFATE Monohydrate TG

Alternate Name(s)

Description

Pink powder. Soluble in water and cabriole, slightly soluble in alcohol, efflorescent in air.

Properties

Chemical Formula: $\text{CoSO}_4 \cdot \text{H}_2\text{O}$

Molecular Weight: 172.56

Product Code: CT649

CAS No. 10124-43-3

General Information:

Used for making absorbent for water in pain and ammonia, indicator for humidity and chemical products in industry. Also used for feed additives.

Hazard and Safety Data

UN Group: III
 Class: 9
 UN Number: 3077
 Hazchem code: 2X
 CS MSDS Code:
 Poison schedule: Not scheduled
 Emergency
 Procedure Guide No.: 47

Quality Specification

Assay: 33.0% min (as Co)

Specific Properties and Impurities [Typical levels]:

Chloride (Cl)	≤ 0.002%
Water insolubles	≤ 0.03%
Arsenic (As)	≤ 0.001%
Lead (Pb)	≤ 0.002%

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Product Specification

Product Name: **COPPER (II) SULFATE Pentahydrate granular 2-5 mm TG**

Alternate Name(s) Cupric Sulfate; Blue Stone; Blue copperas; Blue Vitriol

Description

Blue granules.

Properties

Chemical Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

Molecular Weight: 249.68

Product Code: CT069

CAS No. 7758-99-8

General Information:

Slowly effloresces in air. Nauseous metallic taste. Soluble in water, methanol; slightly soluble in ethanol & glycerol. Environmental hazard - spills very toxic to aquatic life.

Quality Specification

Assay: 98.0% min

Specific Properties and Impurities [Typical levels]:

Becomes anhydrous by	250°C
Loses a further 2H ₂ O @	110°C
Loses 2H ₂ O @	30°C
Specific Gravity	2.29
pH Value (0.2 molar aqueous solution)	4.0
Solubility in Water	317 g/L @ 20°C
Copper (Cu)	25.0% min
Chloride (Cl)	≤ 0.05%
Arsenic (As)	≤ 0.0005%
Cadmium (Cd)	≤ 0.0005%
Iron (Fe)	≤ 0.005%
Lead (Pb)	≤ 0.003%
Particle size 2-5 mm	95%

Hazard and Safety Data

UN Group:	III
Class:	9
UN Number:	3077
Hazchem code:	2X
CS MSDS Code:	1CH2B
Poison schedule:	S6
Emergency Procedure Guide No.:	47

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Product Specification

Product Name: COPPER(II) SULFATE Pentahydrate TG

Alternate Name(s) Cupric Sulfate; Blue Stone; Blue copperas; Blue Vitriol

Description

Fine free flowing blue crystals.

Properties

Chemical Formula: $\text{CuSO}_4 \cdot 5\text{H}_2\text{O}$

Molecular Weight: 249.68

Product Code: CT068

CAS No. 7758-99-8

General Information:

Slowly effloresces in air. Nauseous metallic taste. Soluble in water, methanol; slightly soluble in ethanol & glycerol.

Hazard and Safety Data

UN Group: III
 Class: 9
 UN Number: 3077
 Hazchem code: 2X
 CS MSDS Code: 1CH2B
 Poison schedule: S6
 Emergency Procedure Guide No.: 47

Quality Specification

Assay: 24.5% Cu min.

Specific Properties and Impurities [Typical levels]:

Bulk Density	>1.35 g/ml
Solubility in water (20°C)	317 gm/l
Specific Gravity	2.29
Moisture	≤ 2.0%
Water insolubles	≤ 0.1%
Arsenic (As)	≤ 0.001%
Copper (Cu)	24.5% min.
Iron (Fe)	≤ 0.01%
Lead (Pb)	≤ 0.005%

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Product Specification

Product Name: di-CALCIUM PHOSPHATE Dihydrate Powder TG

Alternate Name(s) DCP; Calcium hydrogen orthophosphate.

Description

White powder; odourless.

Properties

Chemical Formula: $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$

Molecular Weight: 172.09

Product Code: CT145

CAS No. 7757-93-9

General Information:

Practically insoluble in water.

Hazard and Safety Data

UN Group: None Allocated

Class: None Allocated

UN Number: None Allocated

Hazchem code: None Allocated

CS MSDS Code:

Poison schedule: Not Scheduled

Emergency

Procedure Guide No.: N/A

Quality Specification

Assay:

Specific Properties and Impurities [Typical levels]:

Phosphorous (P)	≥ 18%
Moisture	≤ 3%
Arsenic (As)	≤ 0.001%
Calcium (Ca)	≥ 24%
Fluoride (F)	≤ 0.18%
Lead (Pb)	≤ 0.003%
Mercury (Hg)	≤ 0.00001%

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Product Specification

Product Name: di-CALCIUM PHOSPHATE Granular TG

Alternate Name(s) DCP; Calcium hydrogen orthophosphate.

Description

White, tasteless, odourless granules.

Properties

Chemical Formula: $\text{CaHPO}_4 \cdot 2\text{H}_2\text{O}$

Molecular Weight: 172.09

Product Code: CT012

CAS No. 7789-77-7

General Information:

Slightly soluble in water; insoluble in alcohol. Soluble in dilute hydrochloric, nitric & acetic acids. Loses its water at 109°C. Mildly corrosive to steel and aluminium.

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code: 1CHD2
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay: 95% min (as CaHPO_4)

Specific Properties and Impurities [Typical levels]:

Phosphate	≥ 18%
Calcium	≥ 23%
Fluorine	≤ 0.18%
Arsenic	≤ 0.001%
Lead	≤ 0.003%
Cadmium	≤ 0.001%
Mercury	≤ 0.00001%
Particle size (pass 01 - 2 mm)	≥ 95%
Moisture	≤ 3.0%

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Product Specification

Product Name: HYDROCHLORIC ACID 32% TG

Alternate Name(s)

Description

Clear, colourless or slightly yellow, fuming, pungent liquid.

Properties

Chemical Formula: HCl

Molecular Weight: 36.46

Product Code: HT020

CAS No. 7647-01-0

General Information:

Aqueous solution of the gas hydrogen chloride. Soluble in alcohol and benzene. Incompatible with strong bases. Highly corrosive to most metals. Non combustible material.

Hazard and Safety Data

UN Group: II
 Class: 8
 UN Number: 1789
 Hazchem code: 2R
 CS MSDS Code: 1CH34
 Poison schedule: S6
 Emergency Procedure Guide No.: 40

Quality Specification

Assay: 31.5% w/w min.

Specific Properties and Impurities [Typical levels]:

Iron (Fe) ≤ 0.001%

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Product Specification

Product Name: IRON(II) SULFATE Heptahydrate TG

Alternate Name(s) Ferrous sulfate; green vitriol; sulferrous; Copperas; sal chalybis; iron vitriol;
Description iron (II) sulfate heptahydrate; iron (II) sulfate hydrate; iron sulfate.
 Light green crystals; odourless; saline taste.

Properties

Chemical Formula: $\text{FeSO}_4 \cdot 7\text{H}_2\text{O}$
 Molecular Weight: 278.01

Product Code: FT001
 CAS No. 7782-63-0

General Information:

Hygroscopic, forming coating of extremely corrosive basic ferric sulfate.
 Incompatible with alkalis, soluble carbonates and oxidising materials.

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code: 1CH39
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay: 98.0% min.

Specific Properties and Impurities [Typical levels]:

Melting Point	64°C
pH Value (50 g/l, H ₂ O, 20 °C)	3 - 4
Specific Gravity	1.89
Release of crystalline water	300 °C
Size	88% min. pass 12 - 60 mesh
Free acid	<0.35%
Titanium dioxide	<0.6%
Water insoluble matter	<0.2%
Arsenic (As)	<0.0005%
Cadmium (Cd)	<0.0004%
Iron (Fe)	19.0% min.
Lead (Pb)	<0.002%
Sulfur (S)	>11.0%

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Product Specification

Product Name: IRON(II) SULFATE Monohydrate TG

Alternate Name(s) Ferrous sulfate

Description

Grey granular or powder, solid.

Properties

Chemical Formula: FeSO₄•H₂O
 Molecular Weight: 153.92

Product Code: FT096
 CAS No. 7720-78-7

General Information:

Product is intended for use in animal feed, fertilizers, reducing agents and cement industry.

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code:
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay: 91% min.

Specific Properties and Impurities [Typical levels]:

Cadmium	≤ 0.0015 %
Iron	30 % (29.5% - 31.5 %)
Arsenic	≤ 0.0005 %
Lead	≤ 0.002 %
	or as required
	1-2 mm granular
Particle size	~ 60 mesh, 2-4 mm

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Product Specification

Product Name: MAGNESIUM SULFATE Heptahydrate TG

Alternate Name(s) Epsom Salts

Description

Soluble white crystals; saline bitter taste.

Properties

Chemical Formula: MgSO₄•7H₂O

Molecular Weight: 246.48

Product Code: MT048

CAS No. 10034-99-8

General Information:

Soluble in glycerol; very soluble in water; sparingly soluble in alcohol. Low toxicity - moderately toxic by ingestion; non-flammable. Loses 6H₂O at 150 °C; loses water at 200-250 °C.

Quality Specification

Assay: 99.0% min.

Specific Properties and Impurities [Typical levels]:

Bulk density	71g/100ml at 20°C
Solubility in water	1.05 g/cm ³
pH	4-6
Heavy metals (as Pb)	≤ 0.001%
Chloride (Cl)	≤ 0.015%
Magnesium oxide (MgO)	16.25% min.
Water insolubles	≤ 0.01%
Moisture	≤ 2.0%
Arsenic (As)	≤ 0.0002%
Iron (Fe)	≤ 0.002%
Magnesium (Mg)	9.9% min.

Hazard and Safety Data

UN Group:	None Allocated
Class:	None Allocated
UN Number:	None Allocated
Hazchem code:	None Allocated
CS MSDS Code:	1CH44
Poison schedule:	Not Scheduled
Emergency	
Procedure Guide No.:	N/A

Not classified as hazardous according to the criteria of ASCC.

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Product Specification

Product Name: MANGANESE (II) SULFATE Monohydrate Granular TG

Alternate Name(s) Manganous sulfate; Manganous sulfate monohydrate; Manganese (II) sulfate monohydrate.

Description

White to pink granular crystals; saline bitter taste. Hygroscopic.

Properties

Chemical Formula: $MnSO_4 \cdot H_2O$

Molecular Weight: 169.01

Product Code: MT081

CAS No. 10034-96-5

General Information:

Soluble in water. Insoluble in alcohol. Incompatible with aluminium, magnesium, powdered metals and strong oxidisers. May be harmful if swallowed. Non combustible material.

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code: 1CH48
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay: (as Mn) 31.5% min.

Specific Properties and Impurities [Typical levels]:

Chloride	≤ 0.004%
Iron	≤ 0.004%
pH Value	5 - 7
Arsenic	≤ 0.0005%
Lead	≤ 0.0015%
Cadmium	≤ 0.0012%
Mercury	≤ 0.0001%
Insolubles in water	≤ 0.05%
Particle Size	+2-4 mm

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Product Specification

Product Name: MANGANESE SULFATE Monohydrate

Alternate Name(s)

Description

White to pink powder; saline bitter taste. Hygroscopic.

Properties

Chemical Formula: $MnSO_4 \cdot H_2O$

Molecular Weight: 169.01

Product Code: MT006

CAS No. 10034-96-5

General Information:

Soluble in water. Insoluble in alcohol. Incompatible with aluminium, magnesium, powdered metals and strong oxidisers. Non combustible material.

Hazard and Safety Data

UN Group: III
 Class: 9
 UN Number: 3077
 Hazchem code: 2X
 CS MSDS Code: 1CH48
 Poison schedule: Not scheduled
 Emergency Procedure Guide No.: 47

Quality Specification

Assay: 98.0% min.

Specific Properties and Impurities [Typical levels]:

Decomposition Temp. (release of crystalline water)	117 °C
Solubility in Water (@ 20 °C)	762 g/L
Specific Gravity	2.95
pH	5 - 7
Insolubles	<0.05%
Chloride (Cl)	<0.004%
Arsenic (As)	<0.0005%
Cadmium (Cd)	<0.0012%
Iron (Fe)	<0.004%
Lead (Pb)	<0.0015%
Manganese (Mn)	31.8% min.
Mercury (Hg)	<0.0001%

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Product Specification

Product Name: NITRIC ACID 70% w/w TG

Alternate Name(s)

Description

Transparent colourless or yellowish, fuming, suffocating, hygroscopic, corrosive liquid. NOTE: This material may darken during storage due to photochemical reactions.

Properties

Chemical Formula: HNO_3

Molecular Weight: 63.01

Product Code: NT001

CAS No. 7697-37-2

General Information:

Highly corrosive to most metals. Not combustible; powerful oxidant; may cause fire in contact with organic materials, evolving highly toxic gases.

Hazard and Safety Data

UN Group: II
 Class: 8, 5.1
 UN Number: 2031
 Hazchem code: 2R
 CS MSDS Code: 1CHGO
 Poison schedule: S6
 Emergency Procedure Guide No.: 40

Quality Specification

Assay: 68.0% min.

Specific Properties and Impurities [Typical levels]:

Boiling Point	122 °C
Melting Point	-42 °C
Viscosity	0.761 cP (25 °C)
pH Value	<1 (20 °C)
Vapour Density	2-3 (Air = 1)
Specific gravity at 20°C	1.405 min.
Nitrous acid	≤ 0.005%
Iron (Fe)	≤ 0.001%

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Product Specification

Product Name: ORTHOPHOSPHORIC ACID 85% TG

Alternate Name(s)

Description

Colourless odourless syrupy liquid.

Properties

Chemical Formula: H_3PO_4

Molecular Weight: 98.00

Product Code: PT000

CAS No. 7664-38-2

General Information:

Soluble in water and alcohol. Corrosive to ferrous metals and alloys.

Hazard and Safety Data

UN Group: III
 Class: 8
 UN Number: 1805
 Hazchem code: 2R
 CS MSDS Code: 1CH4S
 Poison schedule: S6
 Emergency
 Procedure Guide No.: 37

Quality Specification

Assay: 85.0% min.

Specific Properties and Impurities [Typical levels]:

Freezing point	23°C
Density	1.71 g/ml (approx)
Colour APHA	≤ 20
Easily oxidated matter	≤ 0.04%
Chloride (Cl)	≤ 0.0005%
Sulfate (SO ₄)	≤ 0.005%
Heavy metals (as Pb)	≤ 0.001%
Arsenic (As)	≤ 0.005%
Iron (Fe)	≤ 0.002%

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Product Specification

Product Name: POTASSIUM NITRATE TG with anti-caking agent

Alternate Name(s)

Description

Transparent colourless or white crystalline powder or crystals; slightly hygroscopic; pungent saline taste.

Properties

Chemical Formula: KNO_3

Molecular Weight: 101.1

Product Code: PT011

CAS No. 7757-79-1

General Information:

Mixtures with combustible material are readily ignited and may burn fiercely. Bags, though empty, still impregnated with this substance, are liable to self-sustaining combustion.

Hazard and Safety Data

UN Group: III
 Class: 5.1
 UN Number: 1486
 Hazchem code: 1Z
 CS MSDS Code: 1CH5K
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: 31

Quality Specification

Assay:

Specific Properties and Impurities [Typical levels]:

Melting point	337°C
Potassium (as K_2O)	45.4% min.
Nitrogen (N)	13.0% min.
Moisture	≤ 0.2%
Insolubles	≤ 0.1%
Arsenic (As)	≤ 0.0001%
Calcium (Ca)	≤ 0.04%
Cadmium (Cd)	≤ 0.000025%
Cobalt (Co)	≤ 0.000025%
Copper (Cu)	≤ 0.0001%
Iron (Fe)	≤ 0.002%
Lead (Pb)	≤ 0.0001%
Magnesium (Mg)	≤ 0.015%
Mercury (Hg)	≤ 0.000025%
Molybdenum (Mo)	≤ 0.0001%
Nickel (Ni)	≤ 0.0001%
Selenium (Se)	≤ 0.0001%
Sulfur (S)	≤ 0.02%
Zinc (Zn)	≤ 0.002%

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Product Specification

Product Name: POTASSIUM SULFATE Powder TG

Alternate Name(s) Sal polychrestum; sulfuric acid, potassium salt; sulfuric acid, dipotassium salt.

Description

Fine white powder; bitter saline taste. Soluble material suitable for fertigation and hydroponics.

Properties

Chemical Formula: K_2SO_4

Molecular Weight: 174.26

Product Code: PT026

CAS No. 7778-80-5

General Information:

Slightly soluble in glycerol. Insoluble in alcohol. Incompatible with strong oxidizing agents, aluminium and magnesium. Non combustible material.

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code: 1CH5O
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay: (as Potassium Oxide): 50.0% min.

Specific Properties and Impurities [Typical levels]:

Potassium	42.0 %
Sulfur	18.0 %
Chloride	< 0.5 %
Moisture	< 0.2 %
Water Insolubles	< 0.1 %
pH (1% solution)	2.5 - 3.5
Cadmium	<0.001%
Lead	<0.002%
Arsenic	<0.001%
Mercury	<0.0002%

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Product Specification

Product Name: SODIUM MOLYBDATE Dihydrate TG

Alternate Name(s)

Description

White crystalline powder.

Properties

Chemical Formula: $\text{Na}_2\text{MoO}_4 \cdot 2\text{H}_2\text{O}$
 Molecular Weight: 241.95

Product Code: ST095
 CAS No. 7631-95-0

General Information:

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code: 1CH6L
 Poison schedule: Not Scheduled
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay:

Specific Properties and Impurities [Typical levels]:

Molybdenum content	39.5% min.
Insoluble matter	≤ 0.05 %
Sulfate	≤ 0.5 %
Heavy metal (as Pb)	≤ 0.001 %
Chloride	≤ 0.2 %
Iron	≤ 0.05 %
pH value	8.0 ~ 9.0

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Product Specification

Product Name: SODIUM SELENATE TG

Alternate Name(s)

Description

White crystal or crystalline powder.

Properties

Chemical Formula: Na_2SeO_4

Molecular Weight: 188.94

Product Code: ST416

CAS No. 13410-01-0

General Information:

Soluble in water.

Hazard and Safety Data

UN Group: I
 Class: 6.1
 UN Number: 2630
 Hazchem code: 2X
 CS MSDS Code: 1CHTQ
 Poison schedule: S7
 Emergency
 Procedure Guide No.: 34

Quality Specification

Assay: 98.0% min.

Specific Properties and Impurities [Typical levels]:

Selenium (Se)	41.0% min.
Moisture	≤ 0.5%
Insoluble residue	≤ 0.1%
Selenite (SeO_3)	≤ 0.5%
Arsenic (As)	≤ 0.0005%
Cadmium (Cd)	≤ 0.0005%
Copper (Cu)	≤ 0.001%
Iron (Fe)	≤ 0.001%
Lead (Pb)	≤ 0.002%
Mercury (Hg)	≤ 0.0001%
Nickel (Ni)	≤ 0.0005%
Tellurium (Te)	≤ 0.005%

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Product Specification

Product Name: SODIUM SELENITE TG

Alternate Name(s) Selenious acid disodium salt

Description

White crystal or crystalline powder.

Properties

Chemical Formula: Na₂SeO₃

Molecular Weight: 172.94

Product Code: ST568

CAS No. 10102-18-8

General Information:

Soluble in water; insoluble in alcohol; methanol, ethanol, n-octanol. Stable under normal temperatures and pressures, in air. Moisture sensitive.

Hazard and Safety Data

UN Group: I
 Class: 6.1
 UN Number: 2630
 Hazchem code: 2X
 CS MSDS Code: 1CHCG
 Poison schedule: S7
 Emergency Procedure Guide No.: 34

Quality Specification

Assay: 98.7% min.

Specific Properties and Impurities [Typical levels]:

Selenium (Se)	45.0% min.
Loss on drying	≤ 1.0%
Selenate and sulfate	≤ 0.03%
Water dissolution test	Eligible
Arsenic (As)	≤ 0.001%
Lead (Pb)	≤ 0.001%

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Product Specification

Product Name: ZINC SULFATE Heptahydrate TG

Alternate Name(s) Zinc vitriol, white vitriol; white copperas.

Description

Colourless crystals, small needles or granular crystalline powder; odourless; astringent metallic taste.

Properties

Chemical Formula: $\text{ZnSO}_4 \cdot 7\text{H}_2\text{O}$

Molecular Weight: 287.56

Product Code: ZT012

CAS No. 7446-20-0

General Information:

Efflorescent in air. Loses $7\text{H}_2\text{O}$ at 280°C . Solutions are acid to litmus. Soluble in water and glycerol; insoluble in alcohol.

Hazard and Safety Data

UN Group: None Allocated
 Class: None Allocated
 UN Number: None Allocated
 Hazchem code: None Allocated
 CS MSDS Code: 1CH7K
 Poison schedule: S6
 Emergency Procedure Guide No.: N/A

Quality Specification

Assay:

Specific Properties and Impurities [Typical levels]:

Bulk density	1.97 g/cm ³
Solubility (@ 20 °C)	96 g/100ml
Specific Gravity	1.957
Melting Point	100°C
pH 5% solution [25°C]	4.4 - 6.0
Zinc Content (Zn)	21.5% min.
Arsenic (As)	≤ 0.0005%
Cadmium (Cd)	≤ 0.001%
Lead (Pb)	≤ 0.0015%

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Product Specification

Product Name: ZINC SULFATE Monohydrate Granular TG

Alternate Name(s) Zinc vitriol, white vitriol; white copperas.

Description

Colourless granular crystalline powder; odourless; astringent metallic taste. Hygroscopic.

Properties

Chemical Formula: $ZnSO_4 \cdot H_2O$
 Molecular Weight: 179.44

Product Code: ZT016
 CAS No. 7733-02-0

General Information:

Soluble in water; insoluble in alcohol. Incompatible with strong oxidizing agents, water, lead, calcium, strontium salts, borax, alkali carbonates and hydroxides, silver proteins and tannins.

Hazard and Safety Data

UN Group: III
 Class: 9
 UN Number: 3077
 Hazchem code: ZZ
 CS MSDS Code: 1CH7K
 Poison schedule: S6
 Emergency Procedure Guide No.: 47

Quality Specification

Assay: 98.0% min.

Specific Properties and Impurities [Typical levels]:

Decomposition Temp.	~600 °C
Loses crystalline water	240 °C
pH Value (50 g/L)	4.0
Volatile Component	Zero
Solubility in Water (@ 20 °C)	350 g/L
Specific Gravity	3.35
Zinc content	35.0% min.
Lead	≤ 0.002 %
Cadmium	≤ 0.001 %
Arsenic	≤ 0.0005 %
Iron	≤ 0.002 %
Particle size	2 ~ 4 mm

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Product Specification

Product Name: ZINC SULFATE Monohydrate Powder TG

Alternate Name(s) Zinc vitriol, white vitriol; white copperas.

Description

Colourless crystalline powder; odourless; astringent metallic taste.

Properties

Chemical Formula: $\text{ZnSO}_4 \cdot \text{H}_2\text{O}$

Molecular Weight: 179.44

Product Code: ZT015

CAS No. 7733-02-0

General Information:

Soluble in water; insoluble in alcohol. Incompatible with strong oxidizing agents, water, lead, calcium, strontium salts, borax, alkali carbonates and hydroxides, silver proteins and tannins.

Quality Specification

Assay: 98.0% min.

Specific Properties and Impurities [Typical levels]:

Decomposition Temp.	~600 °C
Loses crystalline water	240 °C
pH Value (50 g/L, H ₂ O, 20 °C)	4.0 - 5.2
Volatile Component	Zero
Solubility in Water (@ 20 °C)	350 g/L
Specific Gravity	3.35
Water Insoluble Matter	<0.1%
Arsenic (As)	<0.0005%
Cadmium (Cd)	<0.001%
Lead (Pb)	<0.001%
Manganese (Mn)	<0.03%
Zinc (Zn)	35% min.

Hazard and Safety Data

UN Group:	III
Class:	9
UN Number:	3077
Hazchem code:	ZZ
CS MSDS Code:	1CH7K
Poison schedule:	S6
Emergency Procedure Guide No.:	47

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