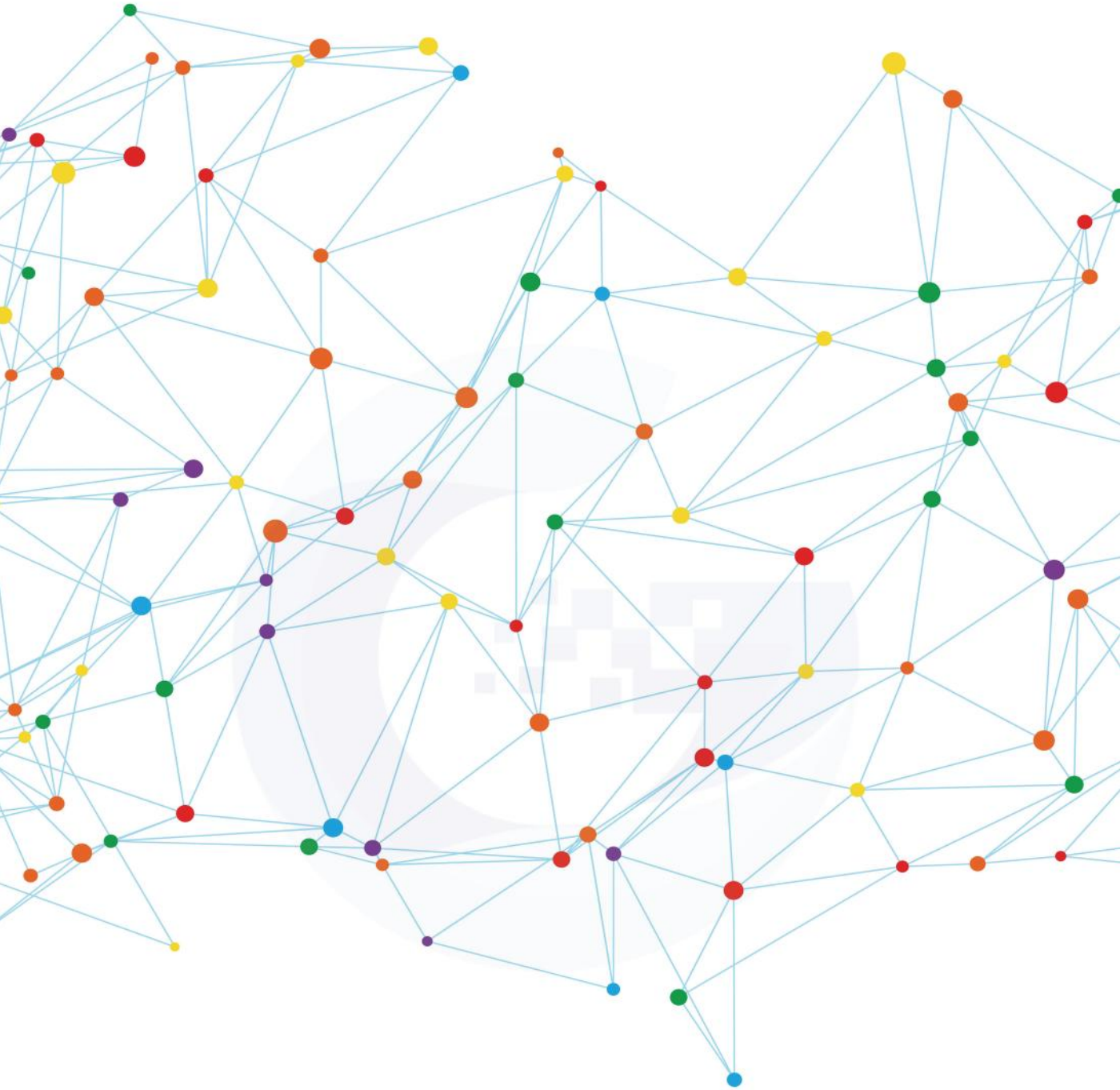
GOLDEN RAVEN



Company Brochure

GOLDEN RAVEN

GOALKEEPER OF YOUR QUALITY

D5-C3717 Tianfu Ave. 500
610000 Chengdu, China

contact@golden-raven.com

www.golden-raven.com

+86 (028) 85134498

HIGH QUALITY FERTILIZER FOR YOUR BUSINESS

FOCUS ON WATER SOLUBLE FERTILIZER

We, **Golden Raven**, are your trusted partner specializing in **high-quality phosphate-based fertilizers**, supported by Sunlite's manufacturing facilities. With a strong foundation in phosphate and boron related products, Golden Raven offers a full range of **macronutrient water-soluble fertilizers**, as well as **secondary and micronutrient fertilizers**, catering to the needs of modern agriculture. By leveraging Sunlite's advanced production capabilities and stringent quality control, Golden Raven ensures that every product meets the highest industry standards.

LEADING BRANDS DEFINING QUALITY

We have established a global brand network spanning fertilizers, chemical raw materials, and new energy materials. **Kelewell®** specializes in chemical raw materials, providing high-quality solutions for various industries. **Golden Raven™** focuses on fertilizer products, including macronutrient and micronutrient formulations for modern agriculture. **ErdeVitalis®** serves the European fertilizer market, offering premium phosphate-based fertilizers. **新力特®(Sunlite)** is dedicated to new energy materials, supporting sustainable development. Through these brands, we ensure reliable supply chains, strict quality control, and innovative solutions to meet the evolving needs of global markets.

新力特 SUNLITE

GOLDEN RAVEN

Kelewell

ERDE VITALIS "Nurturing Nature, Enriching Life."

BRAND

GLOBAL REACH LOCAL EXPERTISE

Our company operates through a strategic global presence. Kelewell in Hamburg serves Europe with chemical raw materials and fertilizers. Golden Raven H.K in Hong Kong facilitates Asia-Pacific trade, supporting fertilizer exports and raw material imports. In China, Chengdu Golden Raven and Sunlite supply phosphates, boron products, and new energy materials. With this global network, we ensure efficient supply chains, localized service, and tailored solutions for agriculture and industry.

R&D
Production
Supply Chain Finance

新力特科技 SUNLITE TECHNOLOGY

Established in 2014

Procurement
Sales
Import-Export

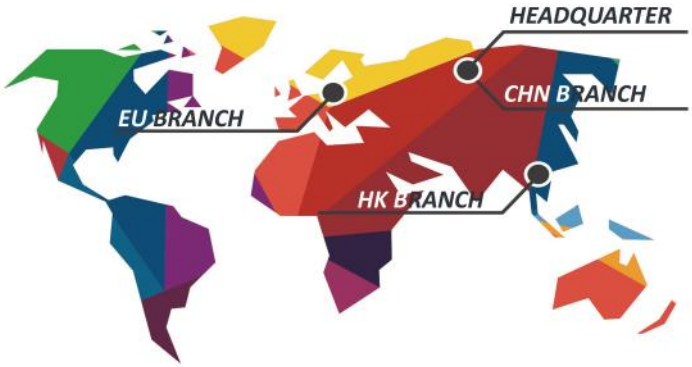
GOLDEN RAVEN

Established in 2020

Marketing
Compliance
Globalization

Kelewell

Established in 2022



CHINA → APAC → EUROPE

THE SUNLITE GROUP

MAIN PRODUCTS

ERDE VITALIS
"Nurturing Nature, Enriching Life."

MONOPOTASSIUM PHOSPHATE

MKP (0-52-34) **KH_2PO_4**

WSF 100%

ErdeVitalis' Monopotassium Phosphate (MKP) 0-52-34 is a highly concentrated, water-soluble fertilizer containing 52% phosphorus (P) and 34% potassium (K). It is used to promote strong root development, enhance flowering, and improve fruiting. Phosphorus supports energy transfer and photosynthesis, while potassium strengthens plant cells, boosts disease resistance, and improves fruit quality.

MKP 0-52-34 is ideal for crops that require high phosphorus and potassium, such as fruits, vegetables, and flowers, especially during flowering and fruiting stages. It is commonly used in fertigation and hydroponic systems and is free from harmful chloride and sodium, making it suitable for sensitive crops.

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

MONOAMMONIUM PHOSPHATE

MAP (12-61-0) **$NH_4H_2PO_4$**

WSF 100%

ErdeVitalis' Monoammonium Phosphate (MAP) 12-61-0 is a widely used water-soluble fertilizer, providing both nitrogen (N) and phosphorus (P) to plants in a readily available form. The "12-61-0" notation refers to its nutrient content: 12% nitrogen and 61% phosphorus, with no potassium.

MAP is particularly beneficial for crops that require higher phosphorus levels, such as root crops, vegetables, and certain fruits. It is commonly used in soil applications, as well as in fertigation systems due to its high solubility in water. The balanced nutrient profile promotes strong root development, flowering, and overall plant growth.

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

DIAMMONIUM PHOSPHATE

DAP (21-53-0) **$(NH_4)_2HPO_4$**

WSF 100%

ErdeVitalis' Diammonium Phosphate (DAP) 21-53-0 is a highly soluble fertilizer containing 21% nitrogen (N) and 53% phosphorus (P). It is widely used to provide essential nutrients for plant growth, especially phosphorus, which supports root development, energy transfer, and flowering. The nitrogen in DAP promotes vigorous vegetative growth.

DAP is commonly applied to a wide range of crops, including grains, vegetables, and fruit trees, especially during planting or early growth stages. Its high phosphorus content makes it ideal for boosting early root development and improving overall plant health. It is often used in both soil applications and fertigation systems

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

UREA PHOSPHATE

UP (17-44-0) **$CO(NH_2)_2{\cdot}H_3PO_4$**

WSF 100%

ErdeVitalis' Urea Phosphate (UP) 17-44-0 is a water-soluble fertilizer containing 17% nitrogen (N) and 44% phosphorus (P). It provides a balanced nutrient profile, with nitrogen promoting healthy vegetative growth and phosphorus supporting root development, flowering, and fruiting.

UP 17-44-0 is especially beneficial for crops that require high phosphorus levels, such as root crops, vegetables, and fruits. Additionally, due to its slightly acidic nature, UP helps to lower the pH of alkaline soils, improving nutrient availability, particularly phosphorus, and enhancing soil fertility. It is commonly used in fertigation and hydroponic systems, and is free from chloride, making it safe for sensitive crops.

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

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MKP

MONOPOTASSIUM PHOSPHATE

KH_2PO_4

www.kelwell.de | www.golden-raven.com

WSF

100%

MonoPotassium Phosphate (MKP) 0-52-34 is a highly concentrated, water-soluble fertilizer containing 52% phosphorus (P) and 34% potassium (K). It is used to promote strong root development, enhance flowering, and improve fruiting. Phosphorus supports energy transfer and photosynthesis, while potassium strengthens plant cells, boosts disease resistance, and improves fruit quality.

MKP 0-52-34 is ideal for crops that require high phosphorus and potassium, such as fruits, vegetables, and flowers, especially during flowering and fruiting stages. It is commonly used in fertigation and hydroponic systems and is free from harmful chloride and sodium, making it suitable for sensitive crops.

N	P	K
0	52	34

CAS No.	7778-77-0
Appearance	Crystalline powder
Color	White
P2O5	Min. 52%
Potassium oxide	Min. 34%
Water insoluble	Max. 0.01%
Moisture	Max. 0.1%
pH Value	4.3-4.7

The contents of cadmium, mercury, arsenic, lead, chromium, thallium and biuret are all lower than the limit values specified in GB 38400 - 2019 (Limitation requirements of toxic and harmful substances in fertilizers).

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

Chengdu/Hongkong/Hamburg info@kelewell.de | contact@golden-racen.com

ERDE VITALIS™
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TMAP

MONOAMMONIUM PHOSPHATE

$NH_4H_2PO_4$

www.kelwell.de | www.golden-raven.com

WSF

100%

Monoammonium Phosphate (MAP) 12-61-0 is a widely used water-soluble fertilizer, providing both nitrogen (N) and phosphorus (P) to plants in a readily available form. The "12-61-0" notation refers to its nutrient content: 12% nitrogen and 61% phosphorus, with no potassium.

MAP is particularly beneficial for crops that require higher phosphorus levels, such as root crops, vegetables, and certain fruits. It is commonly used in soil applications, as well as in fertigation systems due to its high solubility in water. The balanced nutrient profile promotes strong root development, flowering, and overall plant growth.

N	P	K
12	61	0

CAS No.	7722-76-1
Appearance	Crystalline powder
Color	White
Nitrogen	Min. 12%
P2O5	Min. 61%
Water insoluble	Max. 0.01%
Moisture	Max. 0.1%
pH Value	4.2-4.7

The contents of cadmium, mercury, arsenic, lead, chromium, thallium and biuret are all lower than the limit values specified in GB 38400 - 2019 (Limitation requirements of toxic and harmful substances in fertilizers).

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

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UP

UREA PHOSPHATE

$CO(NH_2)_2 \cdot H_3PO_4$

www.kelwell.de | www.golden-raven.com

WSF

100%

Urea Phosphate (UP) 17-44-0 is a water-soluble fertilizer containing 17% nitrogen (N) and 44% phosphorus (P). It provides a balanced nutrient profile, with nitrogen promoting healthy vegetative growth and phosphorus supporting root development, flowering, and fruiting.

UP 17-44-0 is especially beneficial for crops that require high phosphorus levels, such as root crops, vegetables, and fruits. Additionally, due to its slightly acidic nature, UP helps to lower the pH of alkaline soils, improving nutrient availability, particularly phosphorus, and enhancing soil fertility. It is commonly used in fertigation and hydroponic systems, and is free from chloride, making it safe for sensitive crops.

N	P	K
17	44	0

CAS No.	4401-74-5
Appearance	Crystalline powder
Color	White
Nitrogen	Min. 17%
P2O5	Min. 44%
Water insoluble	Max. 0.1%
Moisture	Max. 0.2%
pH Value	1.5-3.0

The contents of cadmium, mercury, arsenic, lead, chromium, thallium and biuret are all lower than the limit values specified in GB 38400 - 2019 (Limitation requirements of toxic and harmful substances in fertilizers).

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

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DAP

DIAMMONIUM PHOSPHATE

$(NH_4)_2HPO_4$

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WSF

100%

Diammonium Phosphate (DAP) 21-53-0 is a highly soluble fertilizer containing 21% nitrogen (N) and 53% phosphorus (P). It is widely used to provide essential nutrients for plant growth, especially phosphorus, which supports root development, energy transfer, and flowering. The nitrogen in DAP promotes vigorous vegetative growth.

DAP is commonly applied to a wide range of crops, including grains, vegetables, and fruit trees, especially during planting or early growth stages. Its high phosphorus content makes it ideal for boosting early root development and improving overall plant health. It is often used in both soil applications and fertigation systems.

N	P	K
21	53	0

CAS No.	7783-28-0
Appearance	Crystalline powder
Color	White
Nitrogen	Min. 21%
P2O5	Min. 53%
Water insoluble	Max. 0.01%
Moisture	Max. 0.1%
pH Value	7.6-8.2

The contents of cadmium, mercury, arsenic, lead, chromium, thallium and biuret are all lower than the limit values specified in GB 38400 - 2019 (Limitation requirements of toxic and harmful substances in fertilizers).

Available in
25 kg bag | 1250 Big Bag | 25kg in BB
Customized design is available

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Boron

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5 10.811
B
Boron

The Role of Boron in Plant Growth

Boron (B) is an essential micronutrient that plays a vital role in plant development, particularly in **cell wall formation, pollen viability, nutrient transport**, and **hormone regulation**. It helps maintain cell structure by cross-linking pectin in cell walls, ensuring strong, healthy plant growth. Additionally, boron facilitates **carbohydrate metabolism**, enabling efficient sugar and nutrient movement from leaves to developing tissues. It also plays a crucial role in **flowering and fruit set**, directly influencing crop yield and quality.

Effects of Boron Deficiency

Boron deficiency is a widespread issue in agriculture, particularly in sandy or highly alkaline soils where boron is easily leached. Symptoms first appear in new growth since boron is immobile in most plants. Common signs include **stunted root growth, brittle or deformed leaves, poor flowering, and fruit deformities**. Crops like **canola, sugar beets, sunflowers, and vegetables** are highly sensitive to boron shortages, often displaying hollow stems, cracked fruits, or failed seed development.

Boron Toxicity and Management

While boron is essential, excessive application can lead to **toxicity**, causing **leaf tip burn, chlorosis, and reduced plant growth**. This is especially common in dry regions where boron accumulates in the soil or irrigation water. To prevent deficiencies or excess, boron can be applied through **soil fertilization** or **foliar sprays**, depending on crop requirements. Foliar application is particularly effective during **flowering stages**, ensuring optimal nutrient absorption.

Proper boron management improves **crop resilience, enhances nutrient efficiency, and maximizes yield and quality**, making it a key element in modern agriculture.

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H_3BO_3

BORIC ACID POWDER

Boric Acid is a key boron source in agriculture, essential for cell wall development, pollen germination, and carbohydrate metabolism. It prevents boron deficiency, improving crop yield and quality. Commonly used in fertilizers, it is applied through soil amendment, foliar sprays, and irrigation systems. Suitable for fruits, vegetables, and oilseed crops, Boric Acid enhances nutrient absorption and overall plant health.

GENERAL DESCRIPTION

Grade	Formula
Tech Grade / Fertilizer Grade	H_3BO_3
Molecular Weight	CAS No.
61.83	10043-35-3

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
Boric Acid	% w/w	99.4-100.8	99.9
Water Insoluble Matter	% w/w	≤ 0.040	0.012
Chloride	% w/w	≤ 0.050	0.009
Sulphate	% w/w	≤ 1.5	0.05
Iron	% w/w	≤ 0.0015	0.0010
Heavy Metal (As Pb)	ppm	-	0.001
Arsenic (As)	ppm	-	0.000006
Mercury (Hg)	ppm	≤ 0.005	N.D

Available Package

25 kg | 50 kg | 1000 kg | 1200 kg | 25 kg in BB

Packaging is customizable

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www.kelewell.de

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$Na_2B_8O_{13}\cdot 4H_2O$

DISODIUM OCTABORATE TETRAHYDRATE – DOT

Disodium Octaborate Tetrahydrate is an effective boron source used in agriculture to prevent and correct boron deficiencies in crops. It supports cell wall formation, pollen viability, and sugar metabolism, enhancing crop yield and quality. Commonly applied via foliar sprays, soil fertilization, and drip irrigation, it is suitable for fruit trees, vegetables, and oilseed crops.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	Na2B8O13·4H2O
Molecular Weight	CAS No.
412.52	12280-03-4

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
B2O3	% w/w	≥ 67.0	67.2
Boron	% w/w	≥ 20.5	20.80
Moisture	% w/w	≤ 1.5	1.0
Water Insoluble Matter	% w/w	≤ 1.5	1.0
Blei (Pb)	mg/kg	≤ 0.010	0.002
Arsenic (As)	mg/kg	≤ 0.010	0.0001
Cadmium (Cd)	mg/kg	≤ 0.005	0.003
Chromium (Cr)	mg/kg	≤ 0.005	0.001

Available Package

20 kg | 1000 kg | 1200 kg | 1250 kg | 20 kg in BB

Packaging is customizable

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Potassium + others

ERDE VITALIS™
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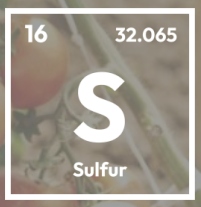
The Role of Key Potassium and Phosphorus Compounds in Plant Growth

Potassium Sulfate (K_2SO_4) – Balanced Nutrition with Sulfur

Potassium sulfate provides both **potassium (K) and sulfur (S)**, essential for **enzyme activation, protein synthesis, and chlorophyll formation**. It enhances **drought resistance, disease tolerance, and fruit quality**. Since it is **chloride-free**, it is especially beneficial for chloride-sensitive crops such as **tobacco, potatoes, and certain fruits**.

Potassium Hydroxide (KOH) – A Readily Available Potassium Source

As a strong **alkaline** potassium source, potassium hydroxide is commonly used in **liquid fertilizers**. It supplies **K for cell function, osmoregulation, and sugar transport**, which improves **root strength, water uptake, and nutrient mobility**. It is particularly effective in **fertigation and foliar applications**, ensuring quick potassium absorption.

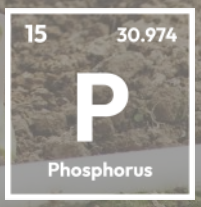


Potassium Nitrate (KNO_3) – Dual Benefits of Potassium and Nitrogen

Potassium nitrate delivers both **potassium (K) and nitrate nitrogen (NO_3^-)**, which are vital for **leaf development, flowering, and fruit formation**. It supports **photosynthesis, root growth, and overall plant vigor** while providing a **chloride-free and quick-absorbing nitrogen source**. This makes it ideal for **hydroponics, fertigation, and high-yield crop systems**.

Mono Potassium Phosphate (KH_2PO_4, MKP) – High-Efficiency Phosphorus and Potassium

Mono potassium phosphate is a **highly soluble** fertilizer that supplies **phosphorus (P) and potassium (K)**, both essential for **energy transfer (ATP synthesis), root development, and flowering**. It improves **early crop establishment, fruit setting, and stress resistance**, making it particularly effective for **foliar feeding and fertigation in fruit, vegetable, and specialty crops**.



These potassium and phosphorus fertilizers play a critical role in **enhancing nutrient balance, plant health, and overall crop productivity**, ensuring optimal growth and yield.

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K_2SO_4

POTASSIUM SULFATE – SOP 00-00-50

Potassium Sulfate (SOP) 50% Powder & Granular is a chloride-free potassium and sulfur fertilizer. The powder form dissolves quickly, ideal for fertigation and foliar spraying, while the granular form ensures even distribution for soil application. It enhances crop quality, stress resistance, and nutrient absorption, making it suitable for chloride-sensitive crops like fruits, vegetables, and tobacco.

GENERAL DESCRIPTION

Grade	Formula
NPK 00-00-50	K2SO4
Molecular Weight	CAS No.
174.26	7778-80-5

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Granular & Powder	Conform
Potassium oxide (K2O)	% w/w	≥ 50.00	50.4
Sulfur (S)	% w/w	≥ 17.5	17.85
Chloride ion(Cl^-)	% w/w	≤ 1.50	1.15
Moisture	% w/w	≤ 1.0	0.28
Free acid (as H2SO4)	% w/w	≤ 1.50	1.2
Color	-	White	Conform

Available Package

9.5 kg | 1000 kg | 1200 kg | 1250 kg | 9.5 kg in BB

Packaging is customizable

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No. 500 D5-C-3717, Tianfu Avenue,
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GOLDEN RAVEN

K_2SO_4

POTASSIUM SULFATE – SOP 00-00-52

Potassium Sulfate (SOP) 52% Powder is a high-potassium, chloride-free fertilizer ideal for improving crop quality and yield. With 52% K_2O content, it provides a rich potassium source essential for fruit development, stress resistance, and overall plant health. Its fine powder form ensures quick dissolution, making it highly effective for fertigation, foliar spraying, and soil application. Suitable for chloride-sensitive crops, SOP 52% supports optimal nutrient absorption and balanced plant nutrition.

GENERAL DESCRIPTION

Grade	Formula
NPK 00-00-52	K2SO4
Molecular Weight	CAS No.
174.26	7778-80-5

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
Potassium oxide (K2O)	% w/w	≥ 52.00	52.42
Sulfur (S)	% w/w	≥ 17.50	17.73
Chloride ion (Cl^-)	% w/w	≤ 1.50	1.19
Moisture	% w/w	≤ 0.80	0.22
Free acid (as H2SO4)	% w/w	≤ 1.50	1.21
Color	-	White	Conform

Available Package

9.5 kg | 1000 kg | 1200 kg | 1250 kg | 9.5 kg in BB

Packaging is customizable

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GOLDEN RAVEN

KOH

90% POTASSIUM HYDROXIDE

Potassium Hydroxide (KOH) is a water-soluble compound used to supply potassium to crops. It supports plant growth by enhancing enzyme activity, water regulation, and photosynthesis. KOH corrects potassium deficiencies in crops like potatoes, tomatoes, and fruits, improving root strength, drought tolerance, and overall yield. It is typically applied through soil or fertigation for efficient nutrient absorption.

GENERAL DESCRIPTION

Grade	Formula
Tech Grade	KOH
Molecular Weight	CAS No.
56.106	1310-58-3

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Flakes	Conform
Main Content (as KOH)	% w/w	≥ 90.0	90.38
K2CO3	% w/w	≤ 0.5	0.3
Chloride (Cl^-)	% w/w	≤ 0.005	0.0048
Sulfate (SO_4)	% w/w	≤ 0.002	0.002
Na	% w/w	≤ 0.5	0.48
SIO3	% w/w	≤ 0.01	0.0001
Heavy Metal (PB)	% w/w	≤ 0.001	No
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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GOLDEN RAVEN

KNO_3

POTASSIUM NITRATE – NOP Fertilizer Grade

Fertilizer-grade Potassium Nitrate (KNO_3) is a water-soluble fertilizer that provides essential potassium and nitrate nitrogen for plant growth. It enhances root development, improves fruit quality, and supports disease resistance. Free of chloride and sodium, it is ideal for chloride-sensitive crops such as tobacco, potatoes, and greenhouse vegetables. Commonly used in fertigation, foliar spraying, and hydroponics, KNO_3 ensures efficient nutrient uptake and promotes high yields. Its high purity and excellent solubility make it a preferred choice for precision agriculture, optimizing plant nutrition while maintaining soil health.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	KNO_3
Molecular Weight	CAS No.
101.10	7757-79-1

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystalline	Conform
Potassium Oxide (K_2O)	% w/w	≥ 46.0	46.1
Chloride (Cl^-)	% w/w	≤ 0.2	0.12
Total Nitrogen (N)	% w/w	≥ 13.5	13.5
Water Insoluble Matter	% w/w	≤ 0.10	0.06
Moisture	% w/w	≤ 0.5	0.23
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25kg in BB

Packaging is customizable

CHENGDU GOLDEN RAVEN TECHNOLOGY CO., LTD
No. 500 D5-C-3717, Tianfu Avenue,
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KNO_3

POTASSIUM NITRATE – NOP Tech Grade

Tech Grade Potassium Nitrate (KNO_3) is a high-purity, water-soluble chemical widely used in various industrial applications. It serves as an essential oxidizing agent in glass manufacturing, metal treatment, fireworks, and explosives. KNO_3 ensures controlled combustion in pyrotechnics and enhances thermal stability in ceramics and specialty fertilizers. Its non-chloride nature makes it suitable for sensitive applications, preventing unwanted chemical reactions. With excellent solubility and stability, industrial-grade potassium nitrate is a key component in numerous manufacturing processes requiring precision and reliability.

GENERAL DESCRIPTION

Grade	Formula
Tech Grade	KNO_3
Molecular Weight	CAS No.
101.10	7757-79-1

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystalline	Conform
Main Content (as KNO_3)	% w/w	≥ 99.6	99.8
Chloride (Cl^-)	% w/w	≤ 0.02	0.0084
Sulfate (SO_4)	% w/w	≤ 0.005	< 0.005
Carbonate (CO_3)	% w/w	≤ 0.01	N D
Ammonium Salt (NH_4)	% w/w	≤ 0.07	0.02
Moisture	% w/w	≤ 0.10	0.07
Water Insoluble Matter	% w/w	≤ 0.01	0.0092
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

CHENGDU GOLDEN RAVEN TECHNOLOGY CO., LTD
No. 500 D5-C-3717, Tianfu Avenue,
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KH_2PO_4

MONOPOTASSIUM PHOSPHATE – MKP

Monopotassium Phosphate (MKP) fertilizer grade is a highly soluble fertilizer with high phosphorus (P_2O_5) and potassium (K_2O) content. It promotes root development, enhances flowering, and improves fruit quality. Commonly used in fertigation, foliar applications, and hydroponics, MKP provides essential nutrients in an easily absorbable form. Its low salt index reduces the risk of crop stress, making it suitable for high-value and sensitive crops.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	KH2PO4
Molecular Weight	CAS No.
136.09	7778-77-0

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystalline Powder	Conform
Main content (KH2PO4)	% w/w	≥ 98.0	99.44
Phosphorus pentoxide (P2O5)	% w/w	≥ 51.0	51.86
Potassium oxide (K2O)	% w/w	≥ 34.0	34.42
Moisture	% w/w	≤ 0.5	0.16
Water insoluble matter	% w/w	≤ 0.3	0.02
pH Value	-	4.3-4.9	4.36
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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The Role of Calcium Ammonium Nitrate (CAN) and Calcium Magnesium Nitrate (CMN) in Crop Growth

Calcium Ammonium Nitrate (CAN) – A Dual-Action Nitrogen and Calcium Source

7 14.007 N Nitrogen

12 24.305 Mg Magnesium

Calcium ammonium nitrate (CAN) provides **both nitrate nitrogen (NO_3^-) and ammonium nitrogen (NH_4^+)**, ensuring a balanced nitrogen supply for crops. **Nitrate nitrogen** promotes rapid nutrient uptake and vegetative growth, while **ammonium nitrogen** enhances root development. Additionally, **calcium (Ca)** strengthens cell walls, improving **fruit firmness, disease resistance, and post-harvest quality**. CAN is widely used for **vegetables, fruits, and cereals** where both nitrogen and calcium are essential for growth.

Calcium Magnesium Nitrate (CMN) – A Triple Nutrient for Improved Crop Health

Calcium magnesium nitrate (CMN) supplies **calcium (Ca), magnesium (Mg), and nitrate nitrogen (NO_3^-)**, offering a well-balanced nutrient profile for plant growth. **Calcium** improves **cell structure, root development, and stress tolerance**, while **magnesium** is essential for **chlorophyll formation and photosynthesis**. The **nitrate nitrogen** in CMN ensures **efficient nutrient absorption and healthy vegetative growth**. This fertilizer is particularly beneficial for **high-value crops like fruits, vegetables, and greenhouse plants**, where magnesium and calcium deficiencies can reduce yield and quality.

Both CAN and CMN play vital roles in **enhancing crop resilience, improving nutrient uptake, and boosting overall yield and quality**.

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$5Ca(NO_3)_2 \cdot NH_4NO_3 \cdot 10H_2O$

CALCIUM AMMONIUM NITRATE – CAN

Calcium Ammonium Nitrate is a highly soluble fertilizer that provides both calcium and nitrogen to plants. It supports plant growth by enhancing root development, boosting cell wall strength, and improving nitrogen uptake. $5Ca(NO_3)_2 \cdot NH_4NO_3 \cdot 10H_2O$ is commonly used to correct calcium and nitrogen deficiencies in crops like vegetables, fruits, and cereals, promoting healthier growth and higher yields. It is typically applied through soil or fertigation for optimal nutrient absorption.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	$5Ca(NO_3)2 \cdot NH_4NO_3 \cdot 10H_2O$
Molecular Weight	CAS No.
1080.71	15245-12-2

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Granular	Conform
Total N	% w/w	≥ 15.5	15.56
Nitrate – Nitrogen	% w/w	≥ 14.4	14.48
Ammonium Nitrogen	% w/w	≥ 1.1	1.12
Ionic Calcium	% w/w	≥ 18.5	19.02
Water insoluble matter	% w/w	≤ 0.1	0.07
Color	-	White	Conform
Phosphate	% w/w	≤ 0.05	0.024
PH Value	-	4.8-5.2	5.0

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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CAL-MAG

CALCIUM MAGNESIUM NITRATE

Calcium Magnesium Nitrate is a water-soluble compound that provides essential calcium and magnesium for plant nutrition. It supports key plant functions such as cell wall formation, photosynthesis, and nutrient uptake. This product is commonly used in fertilizers to address calcium and magnesium deficiencies in crops like tomatoes, peppers, and leafy vegetables, enhancing both yield and quality. It can be applied through soil or foliar sprays, ensuring effective nutrient absorption and promoting plant growth under various environmental conditions.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	-
Molecular Weight	CAS No.
-	-

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Flake	Conform
Nitrogen	% w/w	≥ 11.0	11.2
Nitrate – Nitrogen	% w/w	≥ 11.0	11.2
Calcium oxide	% w/w	≥ 6.5	6.8
Magnesium oxide	% w/w	≥ 11.5	11.6
Water Insoluble Matter	% w/w	≤ 0.1	0.0002
Color	-	Yellow	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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N Mn Zn Mg Fe + Sulphate

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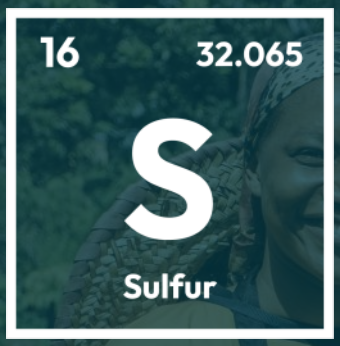

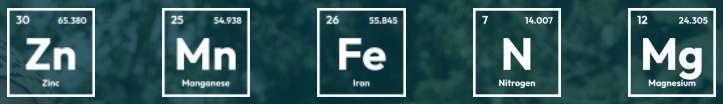

Agricultural Applications of Key Sulfate-Based Fertilizers

Ammonium Sulfate $(NH_4)_2SO_4$ – Nitrogen and Sulfur Source

Ammonium sulfate provides **ammonium nitrogen (NH_4^+) and sulfur (S)** for **protein synthesis and chlorophyll production**. It enhances **crop growth and soil acidification**, benefiting **rice, wheat, and vegetables** in alkaline soils.

Manganese Sulfate $(MnSO_4)$ – Supporting Photosynthesis

Manganese sulfate supplies **manganese (Mn)** for **chlorophyll formation and enzyme activation**. It prevents **chlorosis and weak roots**, benefiting **cereals, citrus, and legumes**, applied through **soil or foliar sprays**.

Zinc Sulfate $(ZnSO_4)$ – Essential for Growth

Zinc sulfate provides **zinc (Zn)** for **enzyme function and hormone production**. It promotes **root growth and seed formation**, preventing **stunted growth and leaf chlorosis**, used in **cereals, fruit trees, and vegetables**.

Magnesium Sulfate $(MgSO_4)$ – Boosting Photosynthesis

Magnesium sulfate supplies **magnesium (Mg) and sulfur (S)** for **chlorophyll production and nutrient uptake**. It corrects **leaf yellowing and poor plant vigor**, widely applied in **tomatoes, potatoes, and citrus**.

Ferrous Sulfate $(FeSO_4)$ – Preventing Iron Chlorosis

Ferrous sulfate provides **iron (Fe)** for **chlorophyll synthesis and enzyme function**. It prevents **iron chlorosis** and promotes **healthy growth in rice, maize, and citrus**, applied via **soil or foliar treatments**.

These sulfate fertilizers help **correct nutrient deficiencies, enhance metabolism, and improve crop yields**.

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$(NH_4)_2SO_4$

AMMONIUM SULPHATE – CAPRO CRYSTAL

Ammonium Sulphate – Capro Grade is a highly soluble nitrogen and sulfur fertilizer. It contains around 21% nitrogen (N) and 24% sulfur (S), making it an excellent choice for promoting vigorous plant growth and protein synthesis. CARPO enhances nutrient uptake efficiency and supports chlorophyll production.
It is widely used in soil application and fertigation, particularly for crops requiring high sulfur levels.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Capro Grade	(NH4)2SO4
Molecular Weight	CAS No.
132.14	7783-20-2

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystal	Conform
Nitrogen (N)	% w/w	≥21.0	21.10
Sulfate (S)	% w/w	≥ 24.0	24.08
Moisture	% w/w	≤ 0.5	0.35
Free Acid	% w/w	≤ 0.5	0.02
Color	-	White	Conform

Available Package

50 kg | 1000 kg | 1200 kg | 1250 kg | 50 kg in BB

Packaging is customizable

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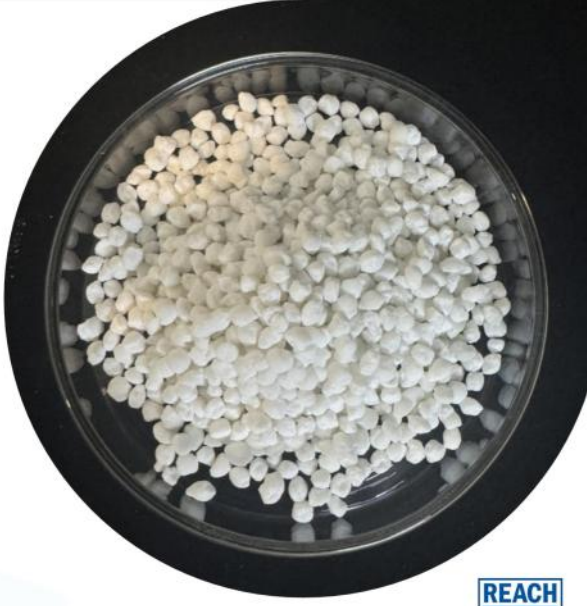
$(NH_4)_2SO_4$

AMMONIUM SULPHATE – CAPRO GRANULAR



Ammonium Sulphate – Capro Grade is a high-purity nitrogen and sulfur fertilizer with excellent solubility. It supports robust plant growth, enhances protein synthesis, and improves chlorophyll production. This fertilizer is widely used in agriculture for soil application and fertigation, ensuring efficient nutrient absorption. Its acidic properties help optimize soil conditions, making it suitable for various crops and soil types.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Capro Grade	(NH4)2SO4
Molecular Weight	CAS No.
132.14	7783-20-2

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystal	Conform
Nitrogen (N)	% w/w	≥ 20.5	21.0
Sulfate (S)	% w/w	≥ 23.8	23.9
Moisture	% w/w	≤ 1.0	0.9
Free Acid	% w/w	≤ 0.2	0.1
Color	-	White	Conform
Particle size 2-5mm	%	≥ 90.0	Conform

Available Package

50 kg | 1000 kg | 1200 kg | 1250 kg | 50 kg in BB

Packaging is customizable

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$(NH_4)_2SO_4$

AMMONIUM SULPHATE – COKING GRANULAR

Ammonium Sulphate – Coking Grade is a nitrogen and sulfur fertilizer derived from the coking process. With good solubility and uniform granule size, it supports steady nutrient release, promoting healthy plant growth and improved protein synthesis. This fertilizer is widely used in soil application for various crops, ensuring efficient nutrient uptake. Its acidic nature helps enhance soil conditions, making it beneficial for alkaline soils.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Coking Grade	(NH4)2SO4
Molecular Weight	CAS No.
132.14	7783-20-2

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystal	Conform
Nitrogen (N)	% w/w	≥ 20.5	20.8
Sulfate (S)	% w/w	≥ 23.5	23.8
Moisture	% w/w	≤ 1.0	0.8
Free Acid	% w/w	≤ 0.2	0.1
Color	-	White	Conform
Particle size 2-5mm	%	≥ 90.0	Conform

Available Package

50 kg | 1000 kg | 1200 kg | 1250 kg | 50 kg in BB

Packaging is customizable

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$MnSO_4 \cdot H_2O$

MANGANESE (II) SULPHATE MONOHYDRATE

Manganese Sulfate Monohydrate ($MnSO_4 \cdot H_2O$) is a water-soluble micronutrient essential for plant growth. It plays a crucial role in photosynthesis, enzyme activation, and nitrogen metabolism. Commonly used in fertilizers, it corrects manganese deficiencies in crops like citrus, grains, and legumes, improving yield and quality. $MnSO_4 \cdot H_2O$ is applied via soil, foliar sprays, or fertigation for effective nutrient absorption.

GENERAL DESCRIPTION

Grade	Formula
Agri Grade	MnSO4·H2O
Molecular Weight	CAS No.
169.01	10034-96-5

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
Main content (as MnSO4·H2O)	% w/w	≥ 98.0	98.30
Manganese (Mn)	% w/w	≥ 31.0	31.80
Arsenic (As)	ppm	≤ 3.0	< 1.0
Lead (Pb)	ppm	≤ 5.0	< 5.0
Cadmium (Cd)	ppm	≤ 10.0	< 3.0
Mercury (Hg)	ppm	≤ 0.2	< DL
Water Insoluble Matter	% w/w	≤ 0.1	< 0.05
Fineness (passes 250μm sieve)	%	≥ 95	> 95

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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$ZnSO_4 \cdot 7H_2O$

21% ZINC SULPHATE HEPTAHYDRATE

Zinc Sulfate Heptahydrate ($ZnSO_4 \cdot 7H_2O$) is a water-soluble micronutrient vital for plant growth. It supports enzymatic activity, protein synthesis, and growth regulation. Commonly used in fertilizers, it corrects zinc deficiencies in crops like corn, wheat, rice, and fruit trees, improving overall plant health, yield, and quality. $ZnSO_4 \cdot 7H_2O$ can be applied through soil, foliar sprays, or fertigation for efficient nutrient uptake and enhanced crop performance.

GENERAL DESCRIPTION

Grade	Formula
Feed Grade	$ZnSO_4 \cdot 7H_2O$
Molecular Weight	CAS No.
287.6	7446-20-0

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystal	Conform
Zn	% w/w	≥ 21.0	21.3
Cd	ppm	≤ 10.0	10.0
Lead (Pb)	ppm	≤ 10.0	10.0
Arsenic (As)	ppm	≤ 5.0	5.0
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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$ZnSO_4 \cdot H_2O$

35% ZINC SULPHATE MONOHYDRATE

Feed-grade Zinc Sulfate Monohydrate ($ZnSO_4 \cdot H_2O$) is a highly bioavailable source of zinc, essential for animal growth, immune function, and enzyme activity. It is widely used in animal feed to prevent zinc deficiencies, support metabolic functions, and enhance overall health in livestock and poultry. With excellent solubility, it ensures efficient absorption and utilization in animal diets. Strict quality control guarantees purity and safety, making it a reliable additive in feed formulations. Its consistent composition helps improve feed efficiency and animal performance, contributing to optimal nutrition in modern livestock production.

GENERAL DESCRIPTION

Grade	Formula
Feed Grade	$ZnSO_4 \cdot H_2O$
Molecular Weight	CAS No.
179.5	7446-19-7

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
Main Content (as ZnSO4·H2O)	% w/w	≥ 96.09	96.1
Zn	% w/w	≥ 35.0	35.14
Cd	ppm	≤ 10.0	3.0
Lead (Pb)	ppm	≤ 10.0	0.3
Arsenic (As)	ppm	≤ 5.0	0.2
Particle Size (less than 250um)	%	95	Conform
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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$ZnSO_4 \cdot H_2O$

ZINC SULPHATE GRANULAR

Zinc Sulphate Granular is a highly effective zinc fertilizer that provides essential nutrients for plant growth and enzyme activation. Zinc plays a crucial role in chlorophyll production, protein synthesis, and hormone regulation, supporting overall crop development. The granular form ensures even distribution and gradual nutrient release, making it suitable for direct soil application and blended fertilizers. Widely used in agriculture, Zinc Sulphate helps prevent zinc deficiencies, improving yield and crop quality in cereals, fruits, and vegetables.

GENERAL DESCRIPTION

Grade	Formula
Feed Grade	ZnSO4·H2O
Molecular Weight	CAS No.
179.5	7446-19-7

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Granular	Conform
Main Content (as ZnSO4·H2O)	% w/w	≥ 96.09	96.1
Zn	% w/w	21% / 25% / 31% / 33%	
Cd	% w/w	≤ 0.001	Conform
Lead (Pb)	% w/w	≤ 0.001	Conform
Arsenic (As)	% w/w	≤ 0.0005	Conform
Particle size	-	1-2MM / 2-4MM / 4-6MM	
Color	-	White	Conform

Remarks: Zinc content can be customized

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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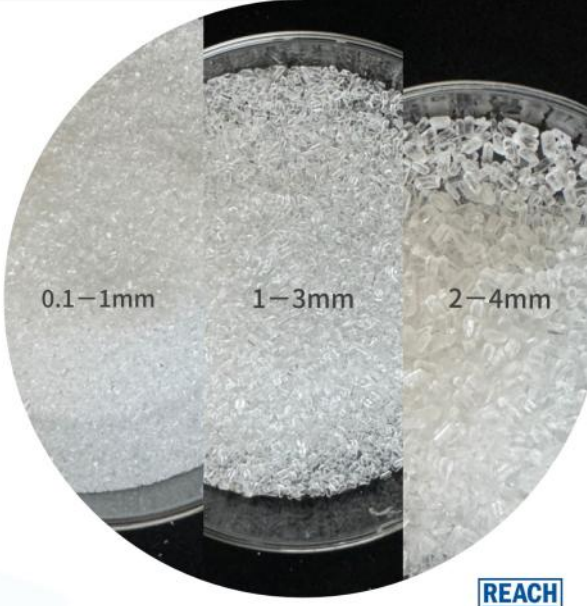
GOLDEN RAVEN

MgSO4·7H2O

MAGNESIUM SULPHATE HEPTAHYDRATE



Magnesium Sulphate Heptahydrate, commonly known as Epsom salt, is a highly versatile compound used across various industries. In agriculture, it serves as an important source of magnesium and sulfur, essential nutrients that promote healthy plant growth and increase crop yield. Magnesium sulphate heptahydrate is particularly effective in preventing and treating magnesium deficiencies in crops like tomatoes, potatoes, and citrus fruits. In animal husbandry, it is included in feed formulations to promote the health and well-being of livestock.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	MgSO4·7H2O
Molecular Weight	CAS No.
246.48	10034-99-8

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystal	Conform
Main content (MgSO4·7H2O)	% w/w	≥ 99.50	99.53
MgSO4	% w/w	≥ 48.59	48.61
MgO	% w/w	≥ 16.20	16.23
Mg	% w/w	≥ 9.80	9.84
Water Insoluble Matter	% w/w	≤ 0.1	0.05
pH	-	5-8	6.5
Chloride ion (Cl^-)	% w/w	≤ 0.03	0.025
Color	-	White & Colorless	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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GOLDEN RAVEN

MgSO4·H2O

MAGNESIUM SULPHATE MONOHYDRATE

Magnesium Sulphate Monohydrate is a highly soluble source of magnesium and sulfur, essential for plant growth and development. Magnesium plays a key role in chlorophyll production and photosynthesis, while sulfur supports protein synthesis and enzyme activity. Its monohydrate form ensures efficient nutrient absorption, making it ideal for soil application, fertigation, and foliar spraying. Widely used in agriculture, it helps prevent magnesium deficiencies, improving crop yield and quality.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	MgSO4·H2O
Molecular Weight	CAS No.
138.38	14168-73-1

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
Main content (MgSO4·H2O)	% w/w	≥ 99.0	99.47
MgSO4	% w/w	≥ 86.0	86.29
MgO	% w/w	≥ 28.6	28.72
Mg	% w/w	≥ 17.21	17.60
Water Insoluble Matter	% w/w	≤ 0.01	Conform
pH	-	5.5-6.5	6.1
Chloride ion (Cl^-)	% w/w	≤ 0.014	0.014
Color	-	White	Conform

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25kg in BB

Packaging is customizable

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GOLDEN RAVEN

$FeSO_4 \cdot H_2O$

FERROUS (II) SULPHATE MONOHYDRATE POWDER

Ferrous Sulphate Monohydrate ($FeSO_4 \cdot H_2O$) is a water-soluble source of iron essential for plant growth. It aids in chlorophyll formation, enzyme function, and overall plant metabolism. Commonly used in fertilizers, it corrects iron deficiencies in crops like fruits, vegetables, and cereals, preventing chlorosis and improving yield. $FeSO_4 \cdot H_2O$ is applied via soil amendment, foliar sprays, or fertigation for optimal nutrient uptake.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	FeSO4·H2O
Molecular Weight	CAS No.
169.92	17375-41-6

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Powder	Conform
Main content (as FeSO4·H2O)	% w/w	≥ 91.3	94.20
Iron Content (Fe2+)	% w/w	≥ 30.0	31.0
Iron Content (Fe3+)	% w/w	≤ 0.2	0.01
Arsenic (As)	% w/w	≤ 0.0002	0.0001
Blei (Pb)	% w/w	≤ 0.0015	0.0003
Cadmium (Cd)	% w/w	≤ 0.0003	0.0001
Water Insoluble Matter	% w/w	≤ 0.1	< 0.05
Fineness (passes 180µm sieve)	%	≥ 95	98

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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GOLDEN RAVEN

$FeSO_4 \cdot H_2O$

FERROUS (II) SULPHATE MONOHYDRATE GRANULAR

Ferrous Sulphate Monohydrate ($FeSO_4 \cdot H_2O$) is a water-soluble source of iron essential for plant growth. It aids in chlorophyll formation, enzyme function, and overall plant metabolism. Commonly used in fertilizers, it corrects iron deficiencies in crops like fruits, vegetables, and cereals, preventing chlorosis and improving yield. $FeSO_4 \cdot H_2O$ is applied via soil amendment, foliar sprays, or fertigation for optimal nutrient uptake.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	FeSO4·H2O
Molecular Weight	CAS No.
169.92	17375-41-6

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Granular	Conform
Main content (as FeSO4·H2O)	% w/w	≥ 91.3	94.20
Iron Content (Fe2+)	% w/w	≥ 30.0	31.0
Iron Content (Fe3+)	% w/w	≤ 0.2	0.01
Arsenic (As)	% w/w	≤ 0.0002	0.0001
Blei (Pb)	% w/w	≤ 0.0015	0.0003
Cadmium (Cd)	% w/w	≤ 0.0003	0.0001
Water Insoluble Matter	% w/w	≤ 0.1	< 0.05
Fineness (passes 20-40 mesh)	%	≥ 95	98

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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$FeSO_4 \cdot 7H_2O$

FERROUS (II) SULPHATE HEPTAHYDRATE

Ferrous Sulphate Heptahydrate is a water-soluble iron source essential for chlorophyll synthesis and enzyme activation in plants. It is widely used in fertilizers to correct iron deficiencies, preventing chlorosis in crops like cereals, fruits, and vegetables. Applied via soil amendment, foliar sprays, or fertigation, $FeSO_4 \cdot 7H_2O$ enhances plant growth, improves yield quality, and supports overall nutrient absorption.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	FESO4·7H2O
Molecular Weight	CAS No.
278.01	7782-63-0

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Crystals	Conform
Ferrous	% w/w	≥ 19.5	19.72
Titanium Dioxide	% w/w	≤ 1.0	0.30
Lead (Pb)	% w/w	≤ 0.03	0.01
Arsenic (As)	% w/w	≤ 0.001	0.0001
H2SO4	% w/w	≤ 2.0	0.34
Cadmium (Cd)	% w/w	≤ 0.0003	0.0001
Water Insoluble Matter	% w/w	≤0.1	< 0.05
pH (5% aq. solution)	-	3.0-4.0	3.3

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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Humate and Fulvate

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Agricultural Applications of Potassium Humate and Potassium Fulvate

Potassium Humate – Soil Improvement and Root Growth Booster

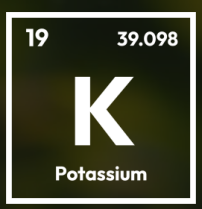
Potassium humate is a water-soluble humic acid derivative that improves soil fertility, nutrient retention, and microbial activity. It enhances soil structure by increasing cation exchange capacity (CEC), reducing nutrient leaching, and promoting better root penetration. Additionally, it stimulates root growth, improves drought resistance, and enhances the efficiency of phosphorus, nitrogen, and micronutrient uptake.

Potassium humate is widely used in fertigation, foliar application, and seed treatment, benefiting cereals, vegetables, fruit trees, and field crops. It reduces soil compaction, enhances plant stress tolerance, and promotes better water retention, making it ideal for both conventional and organic farming.

Potassium Fulvate – Fast-Acting Nutrient Absorption Enhancer

Potassium fulvate, a low-molecular-weight fraction of humic acid, is more bioavailable and quickly absorbed by plants. It enhances nutrient uptake, promotes chlorophyll synthesis, and improves plant metabolism. Unlike potassium humate, potassium fulvate penetrates plant cells more efficiently, making it highly effective in boosting root growth, increasing photosynthesis, and improving overall plant vigor.

Due to its high solubility and compatibility with fertilizers and agrochemicals, potassium fulvate is widely applied in foliar spraying, irrigation systems, hydroponics, and seed treatments. It plays a crucial role in enhancing fertilizer efficiency, improving plant resilience to abiotic stress (such as drought and salinity), and stimulating beneficial microbial activity in the soil.



Both potassium humate and potassium fulvate play complementary roles in modern agriculture, improving soil fertility, enhancing nutrient efficiency, and promoting healthier, higher-yielding crops.

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K-Humate

POTASSIUM HUMATE Microparticle

Potassium Humate is a highly effective organic soil conditioner and potassium fertilizer derived from leonardite. Rich in humic and fulvic acids, it enhances soil structure, improves nutrient retention, and boosts microbial activity. Potassium Humate promotes root growth, increases plant stress resistance, and enhances nutrient uptake efficiency. It is widely used in soil application, fertigation, and foliar spraying, making it ideal for improving soil fertility and crop productivity.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	-
Molecular Weight	CAS No.
-	68514-28-3

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Microparticle	Conform
Total Humic Acid (Dry basis)	% w/w	≥ 60.0	61.3
Potassium (K2O dry basis)	% w/w	≥ 10.0	10.5
Moisture	% w/w	≤ 18.0	17.3
Water solubility	% w/w	≥ 93.0	95.6
pH value	-	9-11	10.4
Color	-	Black	Conform

Remarks: The absolute difference of different laboratory results was ±3% for soluble humic acid and ±0.4% for moisture

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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GOLDEN RAVEN

K-Humate

POTASSIUM HUMATE Flakes & Powder

Potassium Humate is a highly effective organic soil conditioner and potassium fertilizer derived from leonardite. Rich in humic and fulvic acids, it enhances soil structure, improves nutrient retention, and boosts microbial activity. Potassium Humate promotes root growth, increases plant stress resistance, and enhances nutrient uptake efficiency. It is widely used in soil application, fertigation, and foliar spraying, making it ideal for improving soil fertility and crop productivity.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	-
Molecular Weight	CAS No.
-	68514-28-3

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Flakes & Powder	Conform
Total Humic Acid (Dry basis)	% w/w	≥ 60.0	64.1
Potassium (K2O dry basis)	% w/w	≥ 10.0	10.3
Moisture	% w/w	≤ 18.0	17.2
Water solubility	% w/w	≥ 98.0	98.9
pH value	-	9-11	10.2
Color	-	Black	Conform

Remarks: The absolute difference of different laboratory results was ±3% for soluble humic acid and ±0.4% for moisture

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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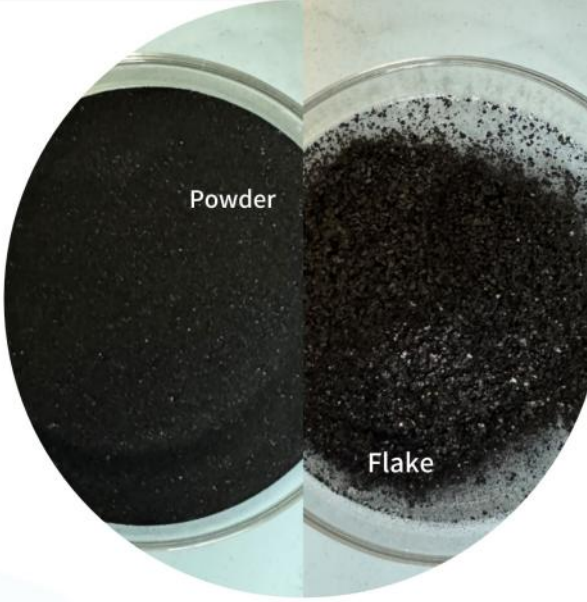
K-Fulvate

POTASSIUM FULVATE Flakes & Powder



Potassium Fulvate is a highly soluble organic fertilizer derived from fulvic acid, providing a rich source of bioactive compounds and potassium. It enhances nutrient absorption, promotes root development, and improves plant stress resistance. With excellent chelating properties, Potassium Fulvate boosts the availability of essential nutrients in the soil, increasing fertilizer efficiency. It is widely used in soil application, fertigation, and foliar spraying, making it ideal for improving crop yield and quality while supporting sustainable agriculture.

GENERAL DESCRIPTION

Grade	Formula
Fertilizer Grade	-
Molecular Weight	CAS No.
-	590-29-4

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL	GUARANTEED
Appearance	-	Flakes & Powder	Conform
Total Humic Acid (Dry basis)	% w/w	≥ 55.4	56
Potassium (K2O dry basis)	% w/w	≥ 12.0	12.1
Moisture	% w/w	≤ 10.0	9.8
Water solubility	% w/w	100	100
pH value	-	9-11	10.4
Color	-	Black	Conform

Remarks: The absolute difference of different laboratory results was ±3% for soluble humic acid and ±0.4% for moisture

Available Package

25 kg | 1000 kg | 1200 kg | 1250 kg | 25 kg in BB

Packaging is customizable

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EDDHA | EDTA | DPTA

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6 12.011
C
Carbon

EDTA, EDDHA, and DTPA Applications in Agriculture

EDTA (Ethylenediaminetetraacetic acid) is widely used as a chelating agent for micronutrients such as iron (Fe), zinc (Zn), copper (Cu), manganese (Mn), magnesium (Mg), and calcium (Ca). It helps keep these elements in a soluble form, making them more available for plant absorption. EDTA is most effective in neutral to slightly acidic soils (pH < 6.5) and is commonly applied in foliar fertilizers, fertigation, and hydroponic solutions.

EDDHA (Ethylenediamine-N,N′-bis(2-hydroxyphenylacetic acid)) is primarily used as an iron chelate, especially for preventing and correcting iron deficiency in plants. It remains highly stable and effective even in alkaline and calcareous soils (pH 7–10), making it an ideal solution for soil application and drip irrigation in such conditions.

19 39.098
K
Potassium

DTPA (Diethylenetriaminepentaacetic acid) provides a more stable alternative to EDTA and is commonly used to chelate iron (Fe), zinc (Zn), copper (Cu), and manganese (Mn). It performs well in neutral to slightly alkaline soils (pH 6–7.5) and is widely used in hydroponic systems, foliar sprays, and fertigation. While more stable than EDTA, it is not as effective as EDDHA in high pH soils.

7 14.007
N
Nitrogen

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EDDHA Fe 6%

C18H16FeN2O6·Na

EDDHA-Fe 6% is a highly effective, water-soluble iron chelate used to prevent and correct iron deficiencies in plants. It is specially formulated for use in alkaline and calcareous soils, where iron availability is typically limited. EDDHA-Fe 6% ensures a stable supply of iron to plants, preventing chlorosis and promoting healthy growth, particularly in crops like fruits, vegetables, and ornamentals. Applied via soil or foliar treatments, it enhances iron uptake and boosts photosynthesis for improved crop yield and quality.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	C14H19N3O10FeNa
Molecular Weight	CAS No.
435.167	16455-61-1

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Granules/Powder
Main Content	% w/w	≥ 99.0
Iron Chelated	% w/w	5.8-6.5
pH (1% water solution)	-	7.0 – 9.0
Ortho-Ortho Value	%	1.2 – 5.2
Color	-	Dark Red, Black

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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EDTA Acid

C10H16N2O8

EDTA Acid is a powerful chelating agent widely used in agriculture to enhance micronutrient availability in fertilizers. It binds with metal ions like Fe, Zn, Cu, and Mn, preventing precipitation and improving plant absorption. Applied in soil conditioning, foliar sprays, and hydroponics, EDTA Acid promotes nutrient uptake, supports plant metabolism, and ensures balanced growth for fruits, vegetables, and field crops.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	C10H16N2O8
Molecular Weight	CAS No.
292.24	60-00-4

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chloride (Cl-)	% w/w	≤ 0.01
Sulfate (SO_4^{2-})	% w/w	≤ 0.05
Heavy Metal (Pb)	% w/w	≤ 0.001
Iron (Fe)	% w/w	≤ 0.001
Chelate Value ($mgCaCO_3/g$)	-	≥ 339
pH (50g/L, 25℃)	-	2.8-3.0
Color	-	White

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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EDTA-2Na

C10H14N2O8Na2·2H2O

EDTA-2Na is a water-soluble chelating agent used in agriculture to enhance the availability of essential micronutrients. It effectively binds metal ions like Fe, Zn, Cu, and Mn, preventing nutrient loss and improving plant absorption. Commonly applied in fertilizers, foliar sprays, and hydroponics, EDTA-2Na supports plant metabolism, boosts nutrient efficiency, and promotes healthy crop growth.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	C10H14N2O8Na2·2H2O
Molecular Weight	CAS No.
372.24	6381-92-6

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chloride (Cl-)	% w/w	≤ 0.01
Sulfate (SO_4^{2-})	ppm	≤ 0.05
Heavy Metal (Pb)	ppm	≤ 0.001
Iron (Fe)	ppm	≤ 0.001
Chelate Value ($mgCaCO_3/g$)	ppm	≥ 256
pH (50g/L, 25℃)	% w/w	4.0-5.0
Color	-	White

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25kg Drum

Packaging is customizable

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GOLDEN RAVEN

EDTA-4Na

C10H12N2O8Na4·4H2O

EDTA-4Na Tetrahydrate is a water-soluble chelating agent used in agriculture to enhance the availability of essential micronutrients. It binds metal ions like Fe, Zn, Cu, and Mn, preventing precipitation and improving nutrient absorption. Commonly applied in fertilizers, foliar sprays, and hydroponics, it supports plant metabolism, optimizes nutrient efficiency, and promotes healthy crop development.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	C10H12N2O8Na4·4H2O
Molecular Weight	CAS No.
452.23	13235-36-4

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chloride (Cl-)	% w/w	≤ 0.01
Sulfate (SO_4^{2-})	ppm	≤ 0.05
Heavy Metal (Pb)	ppm	≤ 0.001
Iron (Fe)	ppm	≤ 0.001
Chelate Value ($mgCaCO_3/g$)	ppm	≥ 220
pH (50g/L, 25℃)	% w/w	10.5-11.5
NTA%	-	1.0% Max

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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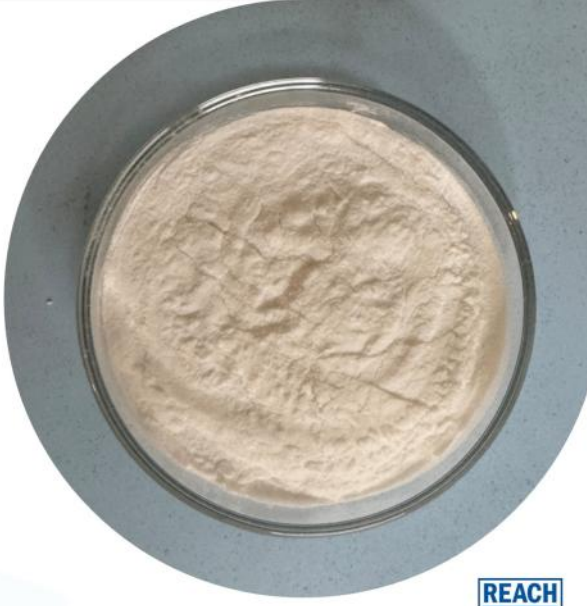
EDTA-$CaNa_2$

$C_{10}H_{12}N_2O_8CaNa_2 \cdot 2H_2O$

$EDTA\text{-}CaNa_2$ is a water-soluble calcium chelate used in agriculture to prevent and correct calcium deficiencies in crops. It plays a crucial role in cell wall formation, root development, and overall plant structure. Commonly applied via soil fertilization, foliar sprays, and hydroponics, $EDTA\text{-}CaNa_2$ enhances calcium uptake, improves fruit quality, and strengthens plant resistance to stress conditions.



REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	$C_{10}H_{12}N_2O_8CaNa_2 \cdot 2H_2O$
Molecular Weight	CAS No.
410.3	23411-34-9

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chelate Ca	% w/w	9.5 – 10.5
pH (1% water solution)	-	6.5 – 7.5
Water Insoluble Matter	% w/w	≤ 0.1
Color	-	White

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

CHENGDU GOLDEN RAVEN TECHNOLOGY CO., LTD
No. 500 D5-C-3717, Tianfu Avenue,
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GOLDEN RAVEN

EDTA-$CuNa_2$

$C_{10}H_{12}N_2O_8CuNa_2 \cdot 2H_2O$

EDTA-$CuNa_2$ is a water-soluble copper chelate used in agriculture to prevent and correct copper deficiencies in crops. It supports chlorophyll formation, enzyme activation, and overall plant metabolism. Commonly applied via soil fertilization, foliar sprays, and hydroponics, EDTA-$CuNa_2$ enhances nutrient absorption, strengthens plant resistance, and promotes healthy crop growth and development.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	$C_{10}H_{12}N_2O_8CuNa_2 \cdot 2H_2O$
Molecular Weight	CAS No.
433.7	14025-15-1

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chelate Cu	% w/w	14.5 – 15.5
pH(1% water solution)	-	6.0 – 7.0
Water Insoluble Matter	% w/w	≤ 0. 1
Color	-	Blue

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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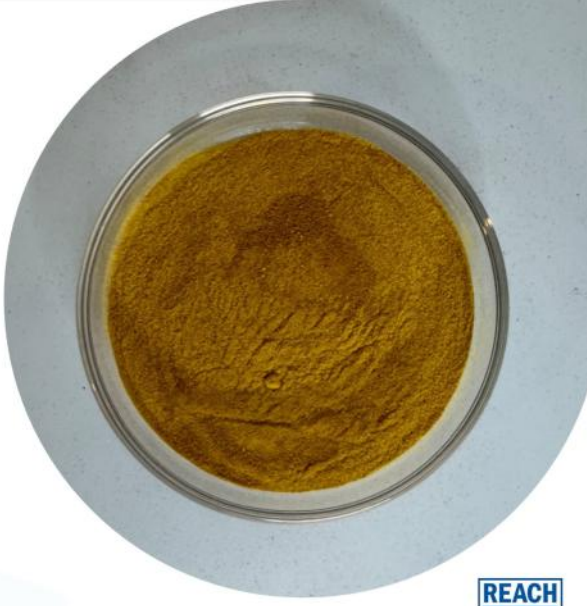
GOLDEN RAVEN

EDTA-FeNa

C10H12N2O8FeNa·3H2O



EDTA-FeNa is a water-soluble iron chelate used in agriculture to prevent and correct iron deficiencies in crops. It enhances chlorophyll synthesis, improves photosynthesis, and supports overall plant metabolism. Applied through soil amendment, foliar sprays, and hydroponic systems, EDTA-FeNa ensures effective iron absorption, preventing chlorosis and promoting healthy crop growth. Suitable for a wide range of plants, including fruits, vegetables, and field crops.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	C10H12N2O8FeNa·3H2O
Molecular Weight	CAS No.
421.5	15708-41-5

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chelate Fe	% w/w	12.5 - 13.5
pH (1% water solution)	-	3.8 - 6.0
EDTA Value	% w/w	65.5 - 70.5
Water Insoluble Matter	% w/w	≤ 0.1
Color	-	Light Yellow

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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GOLDEN RAVEN

EDTA-$MgNa_2$

$C_{10}H_{12}N_2O_8MgNa_2 \cdot 2H_2O$

EDTA-$MgNa_2$ is a water-soluble magnesium chelate used in agriculture to prevent and correct magnesium deficiencies in crops. It plays a key role in chlorophyll synthesis, enzyme activation, and photosynthesis. Commonly applied via soil fertilization, foliar sprays, and hydroponics, EDTA-$MgNa_2$ enhances magnesium absorption, supports plant metabolism, and improves crop yield and quality.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	$C_{10}H_{12}N_2O_8MgNa_2 \cdot 2H_2O$
Molecular Weight	CAS No.
394.51	14402-88-1

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chelate Ca	% w/w	6.0 – 7.5
pH (1% water solution)	-	5.5 – 7.5
Water Insoluble Matter	% w/w	≤ 0. 1
Color	-	White

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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GOLDEN RAVEN

EDTA-$MnNa_2$

$C_{10}H_{12}N_2O_8MnNa_2 \cdot 2H_2O$

EDTA-$MnNa_2$ is a water-soluble manganese chelate used in agriculture to prevent and correct manganese deficiencies in crops. It plays a crucial role in photosynthesis, enzyme activation, and nitrogen metabolism. Commonly applied via soil fertilization, foliar sprays, and hydroponics, EDTA-$MnNa_2$ enhances nutrient absorption, promotes healthy plant growth, and improves crop yield and quality.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	$C_{10}H_{12}N_2O_8MnNa_2 \cdot 2H_2O$
Molecular Weight	CAS No.
425.16	15375-84-5

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chelate Mn	% w/w	12.5 – 13.5
pH (1% water solution)	-	6.0 – 7.0
Water Insoluble Matter	% w/w	≤ 0. 1
Color	-	white

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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GOLDEN RAVEN

EDTA-$ZnNa_2$

$C_{10}H_{12}N_2O_8ZnNa_2 \cdot 2H_2O$

EDTA-$ZnNa_2$ is a water-soluble zinc chelate used in agriculture to prevent and correct zinc deficiencies in crops. It plays a vital role in enzyme activation, protein synthesis, and growth regulation. Commonly applied through soil fertilization, foliar sprays, and hydroponics, EDTA-$ZnNa_2$ enhances nutrient uptake, supports plant metabolism, and improves crop yield and quality.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	$C_{10}H_{12}N_2O_8ZnNa_2 \cdot 2H_2O$
Molecular Weight	CAS No.
435.6	14025-21-9

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Chelate Zn	% w/w	14.5 – 15.5
pH (1% water solution)	-	6.0 – 7.0
Water Insoluble Matter	% w/w	≤ 0. 1
Color	-	white

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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GOLDEN RAVEN

DTPA-FeHNa

C14H19N3O10FeNa

DTPA-FeNa is a highly stable, water-soluble iron chelate used in agriculture to address iron deficiencies in crops. Its unique structure ensures that it remains stable at a wide range of pH levels, providing consistent iron availability for plant absorption. Commonly applied through soil treatments, foliar sprays, or hydroponics, DTPA-FeNa supports chlorophyll production, enhances photosynthesis, and helps prevent iron chlorosis, promoting overall plant health and improving crop yields.

REACH COMPLIANCE

GENERAL DESCRIPTION

Grade	Formula
Tech grade	C14H19N3O10FeNa
Molecular Weight	CAS No.
468.2	12389-75-2

PHYSICOCHEMICAL PROPERTIES	UNIT	TYPICAL
Appearance	-	Powder
Main Content	% w/w	≥ 99.0
Ferric Content	% w/w	≥ 11
pH (1% water solution)	-	2.0 – 4.0
Water Insoluble Matter	% w/w	≤ 0.05
Color	-	Yellow

Available Package

200 mg | 1 kg | 25 kg | 20 kg cartons | 25 kg Drum

Packaging is customizable

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PRODUCTS LIST

SCANING QR CODE

TDS & TRUE SIGHT

- Monopotassium Phosphate Tech Grade (MKP 0-52-34)
- Monopotassium Phosphate Fertilizer Grade (MKP Agro)
- Monoammonium Phosphate Tech Grade (MAP 12-61-0)
- Diammonium Phosphate Tech Grade (DAP 21-53-0)
- Urea Phosphate (UP 17-44-0)
- Boric Acid (Powder)
- Disodium Octaborate Tetrahydrate (DOT)
- Manganese Sulphate Monohydrate
- Zinc Sulphate Monohydrate Granular
- Zinc Sulphate Monohydrate Powder
- Zinc Sulphate Heptahydrate
- Magnesium Sulphate Monohydrate
- Magnesium Sulphate heptahydrate
- Ferrous Sulphate Monohydrate Granular
- Ferrous Sulphate Monohydrate Powder
- Ferrous Sulphate Heptahydrate
- Ammonium Sulphate Coking Grade
- Ammonium Sulphate Capro Grade Granular
- Ammonium Sulphate Capro Grade Crystal
- Potassium Sulphate (SOP 50)
- Potassium Sulphate (SOP 52)
- Potassium Nitrate (NOP) Fertilizer Grade
- Potassium Nitrate (NOP) Tech Grade
- Potassium Hydroxide (KOH 90% Flake)
- Calcium Ammonium Nitrate (CAN)
- Calcium Magnesium Nitrate (Cal-Mag)
- Potassium Humate (K-Humate Flake & Powder)
- Potassium Humate (K-Humate Microparticle)
- Potassium Fulvate (K-Fulvate Flake & Powder
- EDDHA Fe 6% (o-o 1.2 - 5.2)
- DPTA FeHNa (Fe 11%)
- EDTA Acid
- EDTA - 2Na
- EDTA - 4Na
- EDTA - CaNa2
- EDTA - CuNa2
- EDTA - FeNa
- EDTA - MgNa2
- EDTA - MnNa2
- EDTA - ZnNa2

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