



DACSO / MODERN RED EDITION

FERTILIZERS

NPK | DAP 18-46-0 | UREA 46-0-0

Modern commercial brochure redesign with integrated text, DACSO branding and a cleaner red visual system.

DACSO/CORP IRON & METALS

Hong Kong • Paris • Bordeaux

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This version focuses on a more modern commercial presentation while preserving the brochure's technical meaning and core product data.

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NPK • WHAT DO THE NUMBERS MEAN?

N • Nitrogen

Role: greens up plants.

Memory tip: think “UP”.

P • Phosphorus

Role: reaches down to the roots and helps produce blooms.

Memory tip: think “DOWN”.

K • Potassium

Role: promotes all-around wellbeing.

Memory tip: think “ALL AROUND”.

Text is reproduced from the supplied brochure. Obvious typographical errors in titles were normalized; technical content was not independently verified or rewritten.

Shipment Terms & Capacity

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COMMERCIAL OVERVIEW

Minimum order quantity: **500 tons**. The source brochure lists three main logistics formats depending on tonnage and packaging requirements.

Format	Shipment term
50 kgs bags	Shipped in 50 kgs bags in bulk vessels or containers.
Jumbo bags	Shipped in jumbo bags one ton in containers or bulk vessels.
Bulk vessel	Shipped in bulk vessel – bulk load above 8,000 tons per shipment.

DAP 18-46-0 – Overview

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PRODUCT POSITIONING

DAP (Diammonium Phosphate) is a concentrated phosphate fertilizer supplying both nitrogen and phosphorus. It is widely used as a base fertilizer and as a component in fertilizer blends.

Product name	Formula	CAS No.	Form
Diammonium Phosphate DAP 18-46-0	(NH₄)₂HPO₄	7783-28-0	Granules

Its high phosphorus content supports early root development and establishment, while nitrogen contributes to vigorous plant growth.

DAP 18-46-0 – Properties

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TECHNICAL CHARACTERISTICS

Property	Value	DAP use profile
Total Nitrogen	18% min	High phosphorus content makes DAP useful where strong establishment and early root development are required.
Total P2O5	46% min	
Moisture (H2O)	3% max	
Particle size	2–4 mm	

The source brochure explains that a range of compound fertilizers with a combination of nitrogen, phosphorus and potassium (NPK) – the most essential plant nutrients – helps maximize crop yield and quality. Each compound, whether in prill or granule form, is designed to meet average crop requirements.

NPK context

The source brochure positions DAP inside a broader NPK logic: nitrogen, phosphorus and potassium help maximize crop yield and quality.

DAP – Material Safety Data Sheet

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SECTIONS 1–3 • IDENTIFICATION, COMPOSITION, HAZARDS

Field	Value
MSDS name	Di-ammonium phosphate (DAP)
Synonyms	Primary di-ammonium phosphate; ammonium dihydrogen phosphate; ammonium biphosphate; phosphoric acid
CAS No.	7783-28-0
Molecular Weight	132.06
Chemical Formula	(NH4)2HPO4
Ingredient	Diammonium phosphate
Percent	98–100%

Emergency overview

Warning: causes irritation to skin, eyes and respiratory tract. Harmful if swallowed or inhaled.

Rating	Value
Health rating	1 – Slight
Flammability	0 – None
Reactivity	1 – Slight
Contact rating	2 – Moderate
Protective equipment	Goggles, lab coat, proper gloves
Storage color code	Green (general storage)

POTENTIAL HEALTH EFFECTS

Exposure	Summary
Inhalation	Causes irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.
Ingestion	Causes irritation to the respiratory tract. Symptoms may include nausea, vomiting and diarrhea.
Skin contact	Causes irritation to skin. Symptoms include redness, itching and pain.
Eye contact	Causes irritation, redness and pain.
Chronic exposure	No information found.
Aggravation of pre-existing conditions	No information found.

DAP – Material Safety Data Sheet

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SECTIONS 4–10 • FIRST AID, FIRE, STORAGE, PPE & STABILITY

First aid – inhalation

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

First aid – ingestion

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention.

First aid – skin contact

Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Get medical attention.

First aid – eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get medical attention.

Fire information

Not considered to be a fire hazard. Fire may produce toxic fumes. Use suitable media for surrounding fire.

Accidental release

Ventilate area of leak or spill. Wear appropriate PPE. Pick up material without generating dust.

Handling & storage

Store tightly closed in a cool, dry, ventilated area. Protect against physical damage and isolate from incompatible substances.

PPE & exposure

Airborne exposure limits: none established. Use goggles, gloves and appropriate respiratory protection when needed.

Property	Value
Appearance	Brilliant white crystals or granules; dark brown/yellow/green color also mentioned in source
Odor	Faint acid odor
Solubility	1 g / 2.5 ml water
Specific Gravity	1.619
pH	8%
Melting Point	155C

DAP – Material Safety Data Sheet

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SECTIONS 11–16 • TOXICOLOGY, ECOLOGY, DISPOSAL & REGULATORY

Toxicological note

No LD

Ingredient	Known	Anticipated	IARC Category
DI-Ammonium Phosphate (7783-28-0)	No	No	None

Ecological information

Environmental fate: no information found. Environmental toxicity: no information found.

Transport information

Not regulated.

Disposal considerations

Recover or recycle if possible. Otherwise manage in an appropriate approved waste disposal facility according to local rules.

Regulatory information

Chemical Weapons Convention: No. TSCA 12(b): No. CDTA: No. SARA 311/312: Acute Yes; Chronic No; Fire No; Pressure No.

WHMIS

Prepared according to the hazard criteria of the Controlled Products Regulations (CPR).

Other information

NFPA Ratings: Health 3; Flammability 0; Reactivity 0.
Revision information: No changes.

Urea 46-0-0 – Overview

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PRODUCT POSITIONING

Urea (46-0-0) is one of the most widely used nitrogen fertilizers. Its high nitrogen concentration makes it a practical choice for direct field application and fertilizer blends.

Product name	Formula	CAS No.	Form
Urea 46-0-0	$\text{CO}(\text{NH}_2)_2$	57-13-6	White granules / prills

The granular form supports handling, storage and distribution within agricultural supply chains.

Urea 46-0-0 – Properties

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TECHNICAL CHARACTERISTICS

Property	Value	Urea use profile
Fertilizer analysis (N-P2O5-K2O)	46-0-0	
Nitrogen content	46%	
Commercial form	Granules / prills	
Typical use	Nitrogen source for direct use c	High nitrogen content supports competitive transport and widespread field application.

The source brochure states that urea is a carbonyl group with two C-bound amine groups. The commercially available fertilizer has an analysis of 46-0-0 (N-P2O5-K2O). It is presented in the supplied brochure as a fertilizer and as a chemical compound with multiple metabolite-related references.

Commercial strength

Very high nitrogen concentration.

Application profile

Broad crop nutrition use and blending.

Presentation note

Technical text has been reformatted into a cleaner modern layout.

Urea – Material Safety Data Sheet

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SECTIONS 1–8 • IDENTIFICATION, HAZARDS, FIRST AID, STORAGE & PPE

Field	Value
MSDS name	UREA
Synonyms	Carbamide
CAS No.	57-13-6
Molecular Weight	60.06
Chemical Formula	CO(NH ₂) ₂
Ingredient	UREA
Percent	46%
Hazardous	Yes (health)

Hazards identification

Warning causes irritation to skin, eyes and respiratory tract. Harmful if swallowed or inhaled.

Rating

Value

Health rating

1 – Slight

Exposure	Summary
Inhalation	Causes irritation to the respiratory tract. Symptoms may include coughing and shortness of breath.
Ingestion	Symptoms may include nausea, vomiting and diarrhea.
Skin contact	Causes irritation to skin with redness, itching and pain.
Eye contact	Causes irritation, redness and pain.
Chronic exposure	No information found.

First aid

Fresh air for inhalation exposure.
Flush skin or eyes with water for at least 15 minutes. Seek medical attention as needed.

Fire & spill

Not considered a fire hazard. Ventilate spill area and collect material without generating dust.

Storage & PPE

Store cool, dry and ventilated.
Protect from physical damage. Use goggles and other suitable protective equipment.

Urea – Material Safety Data Sheet

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SECTIONS 9–16 • PROPERTIES, STABILITY, TOXICOLOGY, DISPOSAL & REGULATORY

Property	Value
Appearance	Brilliant white crystals or granules or dark brown / yellow / green color
Odor	Faint acid odor
Solubility	1 g / 2.5 ml water
Specific Gravity	1.619
pH	8%
Melting Point	155C
Stability	Stable under ordinary conditions of use and storage
Hazardous decomposition	Burning may produce ammonia and oxides of phosphorus
Incompatibilities	Sodium hypochlorite
Conditions to avoid	Incompatibles

Toxicology & ecology

No LD50/LC50 information found for normal occupational exposure routes. Environmental fate and toxicity: no information found.

Disposal & transport

Use an approved waste facility when recovery or recycling is not possible. Transport information: not regulated.

Regulatory information

Chemical Weapons Convention: No. TSCA 12(b): No. CDTA: No. SARA 311/312: Acute Yes; Chronic No; Fire No; Pressure No.

Other information

NFPA Ratings: Health 3; Flammability 0; Reactivity 0.
Revision information: No changes.

Contact Information

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This modern version was designed with DACSO branding in mind, using a red-led visual identity and a cleaner structure to present the supplied fertilizer information more professionally.