

MATERIAL SAFETY DATA SHEET

MSDS

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Complex NPK

1. PRODUCT AND COMPANY

- Approved for use
 Approved for laboratory use
 Approved by Hydro ChemConsult

TRADE NAME	:	Complex NPK
SYNONYMS	:	11-5-17 ; 15-4-12 ; 16-3-18 ; 17-5-13 ; 18-3-15 ; 21-4-10 ; 22-2-12 ; 25-2-6 ; COMPLEX NPK ; FULLGJØDSEL ; FULLGJØDSEL (NPK-GJØDSEL) ; HYDRAN TM 22-15S ; HYDRO COMPLEX ; HYDROCOMPLEX TM GROWER 16-06-21S ; HYDROCOMPLEX TM PARTNER 12-11-18S ; HYDROCOMPLEX TM SPRINTER 20-10-10S ; NPK ; NPK 6-5-20 MIKRO ; NPK FERTILIZER ; NPK-GJØDSEL
APPLICATION	:	Fertilizer
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PRODUCER/IMPORTER	:	
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Responsible	:	Ola Nyhus
ISSUED BY	:	Hydro ChemConsult, Eric Christenson
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2. COMPOSITION OF PRODUCT

No	Ingredients name	CAS-NO	Weight%	Dangerclas./Cmnt.
1	ammonium nitrate	6484-52-2	30-69%	
2	ammonium sulphate	7783-20-2	0-33%	
3	monoammonium phosphate	7722-76-1	3-12%	
4	diammonium phosphate	7783-28-0	1-4%	
5	calcium phosphates		2-6.5%	
6	potassium chloride	7447-40-7	8-35%	
7	potassium sulphate	7778-80-5	9.5-40%	
8	dolomite	16389-88-1	0-30%	
9	kieserite	14567-64-7	0-20%	
10	Magnesium oxide	1309-48-4	0-2%	

11	copper	7440-50-8	0-0.3%	
12	boron	7440-42-8	0-0.05%	

Legend: T+=Very toxic, T=Toxic, C=Corrosive, Xn=Harmful, Xi=Irritant, IK=No classification required, E=Explosive, O=Oxidising, F+=Extremely flammable, F=Very flammable, Fo=Flammable, N=Dang. to the environment,

INGREDIENT COMMENTS

Contains nitrogen, phosphorus, potassium and other nutrients. For exact nutrient specification, refer to separate product information.

3. HAZARD IDENTIFICATION

The product does not require labelling.

4. FIRST AID

GENERAL

Immediately move the patient from the source of exposure. Move to fresh air, keep the patient warm and at rest. If unconscious: Loosen tight clothing, place in stable position on one side. If heart stops, provide cardiac massage. Give artificial respiration if breathing has stopped.

INHALATION

If dust has been inhaled: Blow nose thoroughly and rinse mouth with water. Fire/strong heating (>100°C) causes formation of nitrogen oxides (NOx). See "General". Establish open airways.

SKIN CONTACT

Wash skin thoroughly with soap and water.

EYE CONTACT

Flush with large amounts of water (open eyelids) for at least 15 minutes. Get medical advice if irritation persists.

INGESTION

Give 1-2 glasses of water and induce vomiting if the patient is fully conscious. Summon physician immediately.

MEDICAL INFORMATION

In an emergency, contact the national Poisons Information Centre. In extreme cases, intake may cause methemoglobin formation (due to bacterial reduction of nitrate to nitrite in the gastro-intestinal system) and cyanosis. Inhalation of gaseous nitrogen oxides may cause lung edema. Nitrogen oxides are only slightly soluble in water and may therefore penetrate to the alveoli. Symptomatic treatment.

5. FIRE FIGHTING MEASURES

PROPER FIREFIGHTING EQUIPMENT

Water.

PERSONAL PROTECTION WHEN FIREFIGHTING

Use self-contained breathing apparatus if substance is involved in fire.

OTHER INFORMATION

When reporting fires in buildings or combustible material where nitrate fertilizer is stored, the fire department must be warned that the product will decompose upon heating and form toxic gases (nitrogen oxides). Fires in barns will therefore expose both farm animals and fire-fighters to serious danger of poisoning. Nitrate fertilizer which has been heated must be cooled with water.

6. ACCIDENTAL RELEASE MEASURES

SAFETY MEASUREMENTS TO PROTECT PERSONS

Avoid contact with skin or inhalation of spillage, dust or vapour. Refer to protective measures listed in sections 7 and 8.

SAFETY MEASUREMENTS TO PROTECT ENVIRONMENT

Minimize spreading. Inform appropriate authorities if large amounts are involved.

PROPER METHODS FOR DAMAGE LIMITATION AND CLEANUP

Collect by mechanical means (shovel, sweep, vacuum etc.). The product may be used as fertilizer under suitable conditions. After cleaning, flush away traces with water. Dispose of in accordance with local regulations for waste handling (see section 13).

7. HANDLING AND STORAGE

HANDLING ADVICE

Avoid handling which causes dust formation. Avoid smoking, open flames, welding etc. Avoid fertilizer spillage and remove empty packaging after use.

STORAGE

Protect against humidity. If stored outdoors, bags should be laid on a base of boards or equivalent and covered with plastic sheet/tarpaulin. Keep away from farm animals; ingestion of large quantities may be harmful. Keep away from heat sources such as radiators, heating elements, steam pipes (even if these are insulated), electric lamps, motors and cables. Do not expose the product to direct exhaust or heat from blowtorches, electric welding etc.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

TLV's:

Ingredients name	CAS-no	TLV value	TLV year
copper	7440-50-8	1,0 mg/m3	

EXPOSURE CONTROL

Occupational exposure limit for nuisance particulates: 10 mg/m³ (total dust), 5 mg/m³ (respirable dust). Provide good ventilation for operations which cause dust formation.

RESP. PROTECTION

Wear particulate respirator if there is dust formation. Particulate filter P2 (fine particles).

EYE PROTECTION

Wear dust-proof goggles if dust formation is possible.

HAND PROTECTION

For prolonged or repeated skin contact use suitable protective gloves. Suitable glove material: Textile/leather or rubber/plastic.

SKIN PROTECTION

Wear suitable protective clothing

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Solid. Granulate. Prills.
Colour:	Various. Grey. Light brown Green. Red.
Odour:	None.
Solubility:	Very soluble in water.

Decomposition temp.:	ca. 130°C	Bulk density:	0.95-1.18 g/cm ³
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Particle size: 1-4 mm.

10. STABILITY AND REACTIVITY

STABILITY

Fire/strong heating (>100°C) may cause decomposition and formation of toxic gases (nitrogen oxides). Decomposition due to heating will stop only when the fertilizer has been cooled.

HAZARDOUS DECOMPOSITION PRODUCTS

Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATION

GENERAL

No toxic/harmful substances have been detected in quantities large enough to cause adverse health effects in normal handling. Fire may cause formation of toxic gases (nitrogen oxides). For more information, refer to safety data sheets for nitrogen oxides or nitric acid.

INHALATION

Dust may irritate respiratory tract and lungs.

SKIN CONTACT

Dust may dry out the skin and cause irritation.

EYE CONTACT

Dust particles in the eyes cause irritation and smarting.

INGESTION

Nitrates can be absorbed by the body from the gastro-intestinal system by ingestion. Symptoms may be headache, dizziness, vomiting and cramps.

12. ECOLOGICAL INFORMATION**MOBILITY**

Dissolves in water.

BREAKDOWN

Biodegradable. Mineralizes.

ACCUMULATION

Does not bioaccumulate.

ECOTOXITY

Larger amounts could increase algae growth. LC50 (fish, 96h): >100 mg/l.

13. DISPOSAL

Not classified as hazardous waste. Small quantities may be flushed to drain with water. Larger quantities may be used as fertilizer or disposed of in approved landfill.

14. TRANSPORT INFORMATION

		ADR (Road)	
Dang. goods	Nei		
		RID (Railway)	
Dang. goods	Nei		
		IMDG (Sea)	
Dang. goods	Nei		
		IATA (Airplane)	
UN No	2071	Dang. goods	Ja
Class	9	Packaging Group	III

Classified as dangerous goods only for air freight.

15. REGULATORY INFORMATION**Classif.:****COMPOSITION**

ammonium nitrate (30-69%), ammonium sulphate (0-33%), monoammonium phosphate (3-12%), diammonium phosphate (1-4%), calcium phosphates (2-6.5%), potassium chloride (8-35%), potassium sulphate (9.5-40%), dolomite (0-30%), kieserite (0-20%), Magnesium oxide (0-2%), copper (0-0.3%), boron (0-0.05%)

R-PHRASES

The product does not require labelling.

REFERENCES

Norwegian substances list (Stoffliste) 1998 (Statens forurensningstilsyn, Arbeidstilsynet, Direktoratet for brann- og eksplosjonsvern). Norwegian occupational exposure limit values (Administrative normer for forurensning i arbeidsatmosfære (Arbeidstilsynet, best.nr. 361)). ADR, RID, IMDG, IATA. Micromedex Tomes CPS System.

16. OTHER INFORMATION
**INFORMATION
SOURCES:**

VENDOR NOTES

The product is a registered trademark for Norsk Hydro ASA.

* The safety data sheet has been approved in accordance with quality control guidelines from the Norwegian Oil Industry Association (OLF). Hydro ChemConsult is certified by OLF. Hydro ChemConsult is not responsible for any errors or deficiencies in the information received from the manufacturer/supplier. The manufacturer/supplier mentioned in section 1 is legally responsible for the contents of the safety data sheet.

USER NOTES

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