

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

According to EC Regulation no. 1907/2006 (REACH) / EC Regulation no. 1272/2008 /
Regulation no. 830/2015

SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE PRODUCER

1.1 Product identification

Name: UREA-AMMONIUM NITRATE SOLUTION (UAN)

Other names: UAN, liquid fertilizers urea-ammonium nitrate, Liquid Nitrogen Fertilizers (UAN)

Chemical formula: $\text{NH}_4\text{NO}_3 + \text{NH}_2\text{-CO-NH}_2$

Composition: solutions of ammonium nitrate and urea.

ECHA Registration Number for Ammonium Nitrate: № 01-2119490981-27-0036

EINECS Number: 229-347-8

CAS Number: 6484-52-2

ECHA Registration Number for Urea: № 01-2119463277-33-0039

CAS Number: 57-13-6

EINECS Number: 200-315-5

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

Recommended Use Fertilisers, Industrial application, Professional use.

Uses advised against All other uses.

1.3 Details concerning the supplier of the Safety Data Sheet

Producer:

JSC "Grodno Azot"

pr. Kosmonavtov 100

230013 Grodno

Republic of Belarus

Telephone no. +357 152 - 794 445

Fax no. +375 17 -210 842 1

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

Only representative according to art. 8 Regulation (EC) 1907/2006

Address

BNH-Oil Polska Sp.z o.o.

Ul.T.Rejtana 17, lok. 14 PL 02-516 Warszawa, Polska

Phone:+48 2250801 11

Fax: +48 2250801 12

Email: info@belneftekhim.pl

Poison Control Centers in Europe are available on site

<http://www.who.int/pcs/poisons/centre/directory/euro/en/>.

SECTION 2 HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Urea-ammonium nitrate solution (UAN) is a mixture of aqueous solutions of ammonium nitrate and urea with the addition of corrosion inhibitor.

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

Classification according to EC Regulation no. 1272/2008 (CLP)

Not classified

Human health hazard

The following aspects should be taken into account:

skin contact: may cause irritation and slight burns of the skin

eye contact: may cause irritation and eye disorders

ingestion: no toxic effects in small quantities but if used in large quantities may cause nausea, vomit, diarrhea, abdominal pains or even methemoglobinemia.

inhaling: toxicity is very low for exposures to small quantities; the exposures to high concentrations may cause respiratory tract irritation, headaches, dizziness, tingling etc.

thermal decomposition products: inhaling gases resulted from thermal decomposition may cause serious disorders of the respiratory system.

Environmental hazards:

Therefore accidental discharge of Urea-ammonium nitrate solution (UAN) may have a negative impact on environment by soil, flowing or phreatic water contamination.

2.2 Labeling

Labeling according to CLP Regulation

The mixture is not classified as hazardous according to the Regulation No.1272/2008/EC on classification, labeling and packaging.

2.3 Other dangers

According to Regulation (EC) No.1907/2006 Annex XIII, the evaluation PBT and vPvB was not carried out as the mixture is formed of inorganic substances.

Other dangers: unknown.

SECTION 3

COMPOSITION/INFORMATION ON COMPONENTS

3.1 The product must be considered:

Mixture

UAN is a mixture of aqueous solutions of ammonium nitrate and urea.

Chemical identity of the substance – UREA-AMMONIUM NITRATE SOLUTION (UAN) is a mixture of aqueous solution of ammonium nitrate with concentration 85-95%, aqueous solution of urea with concentration 65-75% with addition of corrosion inhibitor.

Molecular Formula: $\text{H}_3\text{N.HNO}_3 + \text{CH}_4\text{N}_2\text{O}$

Ammonium Nitrate - EINECS Number: 229-347-8

CAS Number: 6484-52-2

IUPAC Name: ammonium nitrate

Molecular Formula: $\text{H}_3\text{N.HNO}_3$

Concentration limit: $> = 44 - < = 47\%$ (w/w)

Urea - CAS Number: 57-13-6

EINECS Number: 200-315-5

IUPAC Name: UREA

Molecular Formula: $\text{CH}_4\text{N}_2\text{O}$

Concentration limit: $> = 34 - < = 37\%$ (w/w)

Water - CAS Number: 7732-18-5

EINECS Number: 231-791-2

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

IUPAC Name: water

Concentration limit: $\geq 16 - \leq 21.3$ % (w/w)

Chemical identity of impurities

Biuret - CAS Number: 108-19-0

EINECS Number: 203-559-0

IUPAC: dicarbonimidic diamide

Concentration limit: $\geq 0 - \leq 0.5$ %

Corrosion inhibitor "Corrogard" or „Novo Cor". (additive)

Concentration limit: $\geq 90 - \leq 150$ ppm

SECTION 4

FIRST AID MEASURES

4.1 Description of the first aid measures

General advice When symptoms persist or in all cases of doubt seek medical advice.

4.1.1 First aid instructions are provided according to the relevant areas of exposure.

skin contact: wash the contaminated area with plenty of water, replace the contaminated clothing and shoes with clean ones, if necessary (contaminated clothes must be washed before reuse); if the irritation persists seek medical assistance;

eye contact: rinse/irrigate eyes immediately (including under the eyelids) with plenty of water for minimum 15 minutes; if the irritation persists immediately call the medical service;

ingestion: get emergency medical assistance. Rinse mouth. Drink 1 or 2 glasses of water.

Do not induce vomiting without medical advice. If the victim is unconscious and vomits, lay down the person on the left side and make sure the person does not ingest anything

Inhalation: remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.

4.1.2 Recommendations: Use personal protective equipment. Avoid contact with skin, eyes and clothing.

4.2 The most important symptoms and effects, acute as well as delayed

No available information.

4.3 Indications concerning any emergency medical assistance and necessary special treatments

No available information.

SECTION 5

FIREFIGHTING MEASURES

5.1 Fire extinguishing means

Adequate extinguishing means

Use water in abundance, chemical foam or mechanical foam extinguishers, CO₂ extinguishers

Use water hose to minimize or spread the vapors.

Use water to cool down the equipment exposed to the fire, if possible with minimum risk.

Use protection mask with filtering cartridge and adequate equipment for fire extinguishing.

In case of accidents, damages, when the spilled quantities are large, intervention will be made using an insulating oxygen mask.

Inadequate extinguishing means

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

It is prohibited the use of steam to extinguish the fire due to the ammonium nitrate contained in urea-ammonium nitrate solution (UAN).

5.2 Special hazards caused by the substance or mixture

The product is not flammable. No special measures required.

5.3 Advice for firefighters

No special measures required. Wear protection equipment. Wear individual breathing apparatus.

SECTION 6

ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For personnel not involved in emergency situations

Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid contact with skin, eyes and clothing. Avoid breathing vapours or mists. Use personal protective equipment.

(a) Protective equipment

Hand protection:

Protection gloves (thermoresistant).

Eye protection:

Protection mask for the face - tight safety goggles (plastic frame, polycarbonate lenses) for chemical substances

- face mask (polycarbonate) – in case of danger of nitrate splashes

Skin protection

Protective clothing:

Dust-proof protection equipment (duck overalls - bodice trousers, coat)

Winter, summer skirt (duck natural fibers)

Protective shoes:

Boots resisting at chemical and mechanical aggression, with anti-static properties that allow usage in this environment (e.g. leather with rubber sole)

(b) Keep away from sources of heat and fire

Use individual breathing apparatus and appropriate equipment for fire extinguishing.

Open the doors and the windows to produce the maximum ventilation of the room.

(c) Emergency procedures

In case of great danger, the surrounding area must be evacuated.

Avoid inhalation of toxic gases by going perpendicular to the wind direction.

6.1.2. For the personnel involved in the emergency situations

The personnel involved in emergency situations must wear dust-proof protection equipment made of duck, boots resisting at chemical and mechanical aggression and protection mask.

6.2 Environmental precautions

Avoid contact of the spilled substance with the soil and prevent the product discharge in the surface water flow.

6.3 Methods and material for containing fires and for cleaning

Containment and cleaning method for the dispersed substance

Discharge and leakage of small quantities

Vacuum and collect the product in containers marked for disposal. Clean the affected area with large amounts of water. If the spilled substance reaches watercourses, inform the local authorities.

Discharge and leakage of large quantities

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

Vacuum and collect the product in containers marked for disposal. Recycle if possible. Clean the affected area with large amounts of water. If the spilled substance reaches watercourses, inform the local authorities.

Inadequate techniques for containment and cleaning

Do not collect the discharged product in containers with scobs or other combustible materials.

Do not use plugs made of organic materials such as wood to stop leakage.

6.4. Reference to other sections

Note: See section Exposure Control/Personal Protection for information regarding the individual protection equipment and the section Considerations on waste disposal.

SECTION 7

HANDLING AND STORAGE

7.1 Precautions for safe handling

7.1.1 Recommendations for safe handling

Use appropriate ventilation. Local ventilation system is compulsory. Avoid possible sources of ignition (sparks or flame). Avoid contamination with any other sources including metals, powder and organic substances. When handling the product do not use brass, bronze or copper devices.

UAN should be kept above the crystallization temperature, depending on the marque: UAN-28 > -16 °C, UAN-30 > -9 °C, UAN -32, > 0 °C

7.1.2 Advice on general hygiene at the work place

(a) Do not smoke, do not eat, do not drink in the operation area. Place warning device "DO NOT SMOKE" in the operation area.

(b) Wash hands with plenty of water after handling operations.

(c) Remove the contaminated clothing and the protective equipment before entering the areas where the meal is served.

7.2 Conditions for safe storage including possible incompatibilities

The product is stored in carbon steel or stainless steel recipients according with the legislation in force.

Store it far from heat and fire sources.

Store it in cool, dry and ventilated places.

Provide the storage area with protection measures.

Do not store it together with flammable materials or other incompatible materials.

UAN liquid fertilizers are not corrosive to carbon steel.

Protect containers against damages.

Avoid extreme temperatures: heating above 60°C may cause hydrolysis of the product.

Storage and transportation will be made in railway tanks or in tank cars, in PPE and/or PE containers.

7.3 Specific end use(s)

Not the case.

SECTION 8

EXPOSURE CONTROL / PERSONAL PROTECTION

8.1 Control parameters

No official limits are specified.

8.2 Exposure control

8.2.1 Adequate technical controls

General measures at company level

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

The CSSM (The Committee for Work Health and Security) was established at the Company level, where the risk factors of professional injury and illness in the work place are assessed.

The evaluation of the risks of professional injury and illness at the work place was carried out by committees established by the management; preventive measures were taken to eliminate or to diminish the risks that cannot be avoided, having as purpose the work security and health, reduction of work injuries and of professional illnesses.

The employees are provided with appropriate instructions regarding the usage of hazardous chemical agents.

- The personnel are provided with individual protection equipment.
- Collective protection measures are provided.

Collective protection measures for the source of risk

Technical Measures

Monitoring system of the main functioning parameters for the safety of the equipment (pressure, temperature, concentration, flow capacity, level etc), with acoustic and optical warning signals in case of malfunction.

Toxic gas, fire and explosion detectors

Protection devices – flange fenders on all the dangerous liquids layouts

Ammonia and nitric acid layouts painted in conventional colors

Signaling for work safety health and according to Government Ordinance no. 971/2006 (safety, warning, interdiction, obligation marks, delimitation of danger zones)

Ventilation systems.

Rescue showers for the danger of splashing with corrosive substances.

Water sources with upward jet (for washing the eyes in case of splashing)

Periodical ISCIR inspections of under-pressure equipment.

Toxic gases level control

Organization and provision of individual insulating protection equipment

Endowment and organization of medical help trained in case of gassing.

Administrative measures

Manufacturing regulation, work instructions regarding work safety and health and fire prevention

Safety data sheets for hazardous substances

Organization of an information system for surveillance and intervention:

Action plan in case of fire

Internal Emergency Plan (PUI).

Evacuation action plan in emergency situations

Action plan in case of earthquake

Action plan for safe road transport (PSTR).

Authorization for the job position, employees in the production sector, maintenance, repair (mechanic, electric, automation) in technological installations.

Work safety and health training, in all stages (upon hiring, at work, periodically, supplementary) and work safety and health instruction for the employees from the companies that perform services based on contract and for the persons that are on the platform with the employer's permission, related to:

- risk of professional injury and illness at the place of work
- minimal requests of health and safety of work, stipulated by legal regulations applicable to the specific activity at the work place
- tasks and responsibilities of the employees

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

- usage of work equipment and individual protection equipment
- prevention and protection measures, action plan in case of danger
- giving first aid to the injured at the work place

Risk management measures for health

No necessary measures identified for the risk management.

8.2.2. Personal protection measures, such as personal protection equipment

(a)

Protective gloves (EN 374); Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective glove should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material butyl

Material thickness	0,6	-	0,8	mm
Breakthrough time	> 480			min

(b) Eye protection:

Tightly fitting safety glasses (EN 166).

(d) Skin protection:

Protective clothing:

Normal chemical work clothing

Protective shoes:

Protection boots resisting at contact with corrosive chemical substances (rubber, PVC)

Boots resisting at chemical and mechanical aggression, with anti-static properties that allow usage in this environment (e.g. leather with rubber sole).

8.2.3 Environment exposure control

Try to prevent the material from entering drains or water courses. Avoid unintended discharge to soil.

SECTION 9

CHEMICAL AND PHYSICAL PROPERTIES

9.1 Information concerning the main physical and chemical properties

a) Substance/mixture aspect

Physical status: liquid

Color: colorless to yellow

b) Odor: mild ammonia odour could be felt

c) pH- at 20 °C: 7-7.8

d) Density: 1.28-1.32 g/cm³ (20 °C)

e) Detonability – not detonable

f) Auto flammability – not auto-flammable

g) Crystallization temperature:

- 16 °C (UAN-28);

- 9 °C (UAN-30);

0 °C (UAN-32).

h) Alkalinity: max. 0.1%

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

- i) Solubility in water: fully soluble in water.
- j) Explosive properties: Non explosive.
- k) Oxidizing properties: Non-classified as oxidizing substance.

9.2 Other information

No data available.

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

Stable under regular conditions.

10.2 Chemical stability

In normal storage, handling and usage conditions, the product is stable.

10.3 Hazardous reactions potential

Dangerous reactions: unknown.

10.4 Conditions to avoid

High temperatures (above 60°C) – the compounds decompose and release nitrogen and ammonia oxides toxic gases.

High pressures (by heating the closed tanks, the pressure inside increases).

Evaporation or drying of the product.

10.5 Incompatible materials

Fuel materials and lubricants (Diesel oil, gasoline, oils, Vaseline), organic substances, oxidizing materials.

Strong acids and chlorates or other strong oxidants.

In contact with alkaline substances may release ammonia.

It is corrosive to copper, brass or bronze.

10.6 Hazardous decomposition products

No decomposition of the product provided the usage instructions are followed.

The product is not combustible, but if present in fire it may emit toxic vapors of nitrogen oxides and carbon.

Exposure to high temperatures may cause release of ammonia vapors.

Total evaporation of water from UAN may generate solid residues of ammonium nitrate and urea.

SECTION 11 TOXICOLOGICAL INFORMATION

Toxicokinetics (absorption, metabolism, distribution and excretion)

No data available.

11.1 Information on toxicological effects

The relevant hazard classes for which information is provided are:

- (a) Acute toxicity
- (b) Skin corrosion / irritation
- (c) Eye irritation / damage
- (d) Sensitization of the skin or the respiratory system
- (e) Mutagenicity germ cell
- (f) Carcinogenicity
- (g) Toxicity for reproduction
- (h) STOT (specific target organs of toxicity) – unique exposure
- (i) STOT (specific target organs of toxicity) – repeated exposure
- (j) Aspiration hazard

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

11.1.1 Information for each hazard class

- (a) Acute toxicity - oral LD50 > 2000 mg/kg bw may cause methaemoglobinaemia (see section 2.1)
- (b) Irritation
No data available.
- (c) Serious eye damage / irritation
No data available.
- (d) Sensitization
No data available.
- (e) Mutagenicity germ cell
No data available.
- (f) Carcinogenicity
Not identified as a carcinogen.
- (g) Toxicity for reproduction
No data available.
- (h) STOT (specific target organs of toxicity) – unique exposure - conclusive but not sufficient for classification
- (i) STOT (specific target organs of toxicity) – repeated exposure - conclusive but not sufficient for classification
- (j) Aspiration hazard - there is no data available

11.1.2 The data in this subsection apply to the UAN in the form under which it is placed on the market – no data available.

11.1.3 The results of experimental studies by route of exposure:

The acute toxicity after oral administration
LD50 oral > 2000 mg/kg bw
The acute toxicity after administration by inhalation
LC50: > 88.8 mg/L
The acute toxicity after dermal administration
No data available.

11.1.4 For the following hazard classes: STOT – single exposure, STOT – repeated exposure, aspiration hazard –. no data available.

11.1.5 Information on the likely routes of exposure

The likely routes of exposure are ingestion (swallowing), inhalation or skin / eyes exposure – no data available.

11.1.6 Symptoms related to the physical, chemical and toxicological characteristics

No data available.

11.1.7 *The known delayed and immediate effects and the chronic effects of long term exposure and short term exposure*

No data available.

11.1.8 Interactive effects

No data available.

11.1.9 Absence of specific data

No data available.

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity

Aquatic compartment (including sediments)

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

Low toxicity for aquatic life.

Terrestrial – No data available

Atmospheric environment – No data available

12.2 Persistence and degradability

Ammoniacal nitrogen as well as nitric nitrogen is essential in plant nutrition, ammonia ion can oxidize, in time, until it becomes nitrate ion, causing soil to become acid.

12.3 Potential for bioaccumulation

The fertilizer does not produce bio-accumulation phenomena.

12.4 Mobility in soil

Adsorption/desorption – no data available

Volatility - not applied to inorganic substances

Distribution modeling – no data available

12.5 PBT and vPvB assessment results

According to the Regulation (EC) no. 1907/2006 - Annex XIII, the evaluation was not carried out because the ammonium nitrate is an inorganic substance.

12.6 Other adverse effects

No information available regarding other adverse environmental effects.

SECTION 13

DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company. Packaging Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer..

UE Legislation in force:

Regulation (EC) no. 1907/2006 of the European Parliament and of the Council regarding the Registration, evaluation authorization and restriction of chemicals (REACH).

Regulation (EC) no. 1272/2008 of the European Parliament and of the Council on the classification, labeling and packaging of substances and mixtures.

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

European Agreement concerning the International Carriage of Dangerous Goods by Rail (RID).

SECTION 14

TRANSPORT INFORMATION

Information concerning classification for

Urea-ammonium nitrate solution (UAN) is not classified, according to the UN Orange Book, RID, ADR and IMDG; the product is not considered dangerous for transport.

Sections 14.1; 14.2; 14.3; 14.4 do not apply.

14.5. Environmental hazards

No information available.

14.6. Special precautions for users

Each delivery is accompanied by the Conformity Statement.

The labeling is according to the stipulations in force.

All transports will be accompanied by transport documents specific for the transported products, according to the legislation in force.

The product does not have ADR, RID, IMDG classification for transport.

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

14.7. Bulk transport, according to Annex II to MARPOL Convention and IBC Code
Not applicable.

SECTION 15 REGULATORY INFORMATION

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

Relevant information regarding the EU legislation

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC; - Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); - Commission Regulation (EC) No 552/2009 of 22 June 2009 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) as regards Annex XVII; - REGULATION (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006; - Commission Regulation (EU) No 1357/2014 of 18 December 2014 replacing Annex III to Directive 2008/98/EC of the European Parliament and of the Council on waste and repealing certain Directives; - Directive 2012/18/EU of the European Parliament and of the Council of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC; - Regulation (EU) No 98/2013 of the European Parliament and of the Council of 15 January 2013 on the marketing and use of explosives precursors;

European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).
Regulation referring to the International Carriage of Dangerous Goods by Rail (RID)
International Maritime Dangerous Goods (IMDG).

15.2 Evaluation of chemical security

Not the case.

SECTION 16

ADDITIONAL INFORMATION

a) A clear evidence of added, deleted or modified information

Version number 3

b) List of abbreviations and acronyms used in the safety data sheet:

SDS - Safety Data Sheet

ECHA - European Chemicals Agency

EC - European Commission

ESIS - European chemical Substances Information System

REACH - Regulation (EC) No.1907/2006 of the European Parliament and of the Council regarding the registration, evaluation authorization and restriction of chemicals

LD50 - Median Lethal Dose, (50%) (dose required to kill half the members of a tested population)

LC50 - Lethal concentration for 50% of the tested population

SAFETY DATA SHEET



Trade name: Urea-ammonium nitrate solution (UAN)
Product no.: grod012

Version: 3 / GB

Status:
23.08.2019

STOT - Specific target organs of toxicity

PBT - Persistent, Bioaccumulative, Toxic

vPvB - very Persistent, very Bioaccumulative

FPE - Fire Prevention and Extinction

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road, 2015 edition

RID - European Agreement concerning the International Carriage of Dangerous Goods by Rail, 2015 edition

IMDG - International Maritime Dangerous Goods, 2012 edition

MARPOL - International Convention for the Prevention of Pollution from Ships

IBC - International Code for the construction and equipment of ships carrying dangerous chemical products in bulk

w/w - mass unit

b/w - body weight

c) Bibliography:

Official Journal of the European Union – EU Regulation no. 830/2015 of the European Council of 28.05.2015

EFMA – Guidance for the Compilation of Safety Data Sheets

ESIS – European Chemical Substances Information System

Official Journal of the European Union - Regulation (EC) No.1907/2006 of the European Parliament and of the Council regarding the registration, evaluation authorization and restriction of chemicals (REACH).

GESTIS Data Bank - Material Safety Data Sheets

Note:

The information contained in this Safety Data Sheet is based on the available data at the time of elaboration.

The client and the user assume all risks regarding usage, handling and storage of this product. There are no guarantees for the product in case of improper handling, transport and storage of the product, in case of non-compliance with the regulations in use in the Technical Data Sheet and Safety Data Sheet.