

SAFETY DATA SHEET



according to Regulation (EC) No 1907/2006 (REACH) as amended

Astasol AN8011N

Creation date 22. May 2019

Revision date

Version

1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Astasol AN8011N

Substance / mixture

mixture

Number

AN8011N

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

Mixture's intended use

For professional use only. Laboratory chemical substances.

The use descriptors

SU 24

Scientific research and development

PC 21

Laboratory chemicals

Mixture uses advised against

not available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Name or trade name

Analytika, spol. s r.o.

Address

Ke Klíčovu 816/2a, Praha 9 - Vysočany, 190 00
Czech Republic

Identification number (CRN)

14891883

VAT Reg No

CZ14891883

Phone

+420 286 589 616

E-mail

sales@analytika.net

Web address

www.analytika.net

Competent person responsible for the safety data sheet

Name

Analytika, spol. s r.o.

E-mail

sales@analytika.net

1.4. Emergency telephone number

National Health Service (NHS) 111

National poisoning information centre Scotland, NHS 24: 111

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Met. Corr. 1, H290

Skin Corr. 1, H314

Full text of all classifications and hazard statements is given in the section 16.

Most serious adverse physico-chemical effects

May be corrosive to metals.

Most serious adverse effects on human health and the environment

Causes severe skin burns and eye damage.

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2.2. Label elements

Hazard pictogram



Signal word

Danger

Hazardous substances

nitric acid

Cerium (III) nitrate

Hazard statements

H290 May be corrosive to metals.

H314 Causes severe skin burns and eye damage.

Precautionary statements

P260 Do not breathe vapours/spray.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a doctor.

2.3. Other hazards

Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture of substances and additives specified below.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note.
Index: 007-004-00-1 CAS: 7697-37-2 EC: 231-714-2 Registration number: 01-2119487297-23-0070	nitric acid	5	Ox. Liq. 2, H272 Met. Corr. 1, H290 Skin Corr. 1A, H314 Acute Tox. 3, H331 EUH 071 Specific concentration limit: Skin Corr. 1A, H314: C ≥ 20 % Skin Corr. 1B, H314: 5 % ≤ C < 20 % Ox. Liq. 2, H272: C ≥ 99 % Ox. Liq. 3, H272: 65 % ≤ C < 99 % Met. Corr. 1, H290: C ≥ 1 %	1, 2
CAS: 85874-44-8 EC: 233-297-2	Cerium (III) nitrate	0,023	Ox. Sol. 3, H272 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	

Notes

1 Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

2 Substance for which exposure limits of Community for working environment exist.

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Take care of your own safety. If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet. If unconscious, put the person in the stabilized (recovery) position on his side with his head slightly bent backwards and make sure that airways are free; never induce vomiting. If the person vomits by himself, make sure that the vomit is not inhaled. In life threatening conditions first of all provide resuscitation of the affected person and ensure medical assistance. Respiratory arrest - provide artificial respiration immediately. Cardiac arrest - provide indirect cardiac massage immediately.

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If inhaled

Take care of your own safety, do not let the affected person walk! Terminate the exposure immediately; move the affected person to fresh air. Beware of the contaminated clothes. Depending on the situation, call the medical rescue service and ensure medical treatment considering the frequent need of further observation for at least 24 hours.

If on skin

Remove contaminated clothes. Take off any rings, watches, bracelets before or during washing if worn in the contaminated areas of the skin. Depending on the situation, call the medical rescue service and always ensure medical treatment. Rinse contaminated areas with a flow of water, lukewarm at best, for 10-30 minutes; do not use any brush, soap or neutralizers. Rinse skin with water/shower. Rinse cautiously with water for several minutes.

If in eyes

Rinse eyes immediately with a flow of running water, open the eyelids (also using force if needed); remove contact lenses immediately if worn by the affected person. No neutralization should be performed in any case! Rinsing should be continued for 10-30 minutes from the inner to the outer eye corner to make sure that the other eye is not involved. Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible. Everyone must be referred for treatment even if affected only a little.

If swallowed

DO NOT INDUCE VOMITING - there is danger of further damage to the gastrointestinal tract!!! Danger of esophageal and gastric perforation! RINSE THE MOUTH WITH WATER IMMEDIATELY AND LET THE PERSON DRINK 2-5 dl of cold water to reduce the heating effect of the corrosive substance. Consuming larger amounts of liquid is not advisable as it may induce vomiting and potential inhaling of the corrosive substances in the lungs. The affected person must not be forced to drink, particularly if already feeling pain in the mouth or throat. In this case let the affected person only rinse the mouth with water. DO NOT PROVIDE ACTIVATED CARBON! Depending on the situation, call medical rescue service or ensure medical treatment as promptly as possible.

4.2. Most important symptoms and effects, both acute and delayed

If inhaled

Inhaling vapours can cause corrosion of the breathing system.

If on skin

Causes severe skin burns.

If in eyes

Causes serious eye damage.

If swallowed

Corrosion of the digestion system can occur.

4.3. Indication of any immediate medical attention and special treatment needed

Symptomatic treatment.

More information

Other information is not available.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, carbon dioxide, powder, water spray jet, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Inhalation of hazardous degradation (pyrolysis) products may cause serious health damage.

5.3. Advice for firefighters

Use a self-contained breathing apparatus and full-body protective clothing. Closed containers with the product near the fire should be cooled with water. Do not allow run-off of contaminated fire extinguishing material to enter drains or surface and ground water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

May be corrosive to metals. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale aerosols. Prevent contact with skin and eyes.

6.2. Environmental precautions

Prevent contamination of the soil and entering surface or ground water.

6.3. Methods and material for containment and cleaning up

Spilled product should be covered with suitable (non-flammable) absorbing material (sand, diatomaceous earth, earth and other suitable absorption materials); to be contained in well closed containers and removed as per the Section 13. In the event of leakage of the substantial amount of the product, inform fire brigade and other competent bodies. After removal of the product, wash the contaminated site with plenty of water. Do not use solvents. Absorb spillage to prevent material damage.

6.4. Reference to other sections

See the Section 7, 8 and 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Prevent formation of gases and vapours in concentrations exceeding the occupational exposure limits. Do not inhale aerosols. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Do not expose to sunlight. Store locked up. Keep only in original container.

Storage class

8B - Non-combustible corrosive substances

Material of package

HDPE (2), High-density (linear) polyethylene (Plastics)



HDPE

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

European Union

Substance name (component)	Type	Time of exposure	Value	Note	Source
nitric acid (CAS: 7697-37-2)	OEL	Short-term	2,6 mg/m ³		EU limits
	OEL	Short-term	1 ppm		

United Kingdom of Great Britain and Northern Ireland

Substance name (component)	Type	Time of exposure	Value	Note	Source
nitric acid (CAS: 7697-37-2)	WEL	1 hour	2,6 mg/m ³		GBR
	WEL	1 hour	1 ppm		

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8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest.

Eye/face protection

Protective goggles or face shield (based on the nature of the work performed).

Skin protection

Hand protection: Protective gloves resistant to the product. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: protective workwear. Contaminated skin should be washed thoroughly.

Respiratory protection

Use a mask with filter when the exposition limits of the substances are exceeded or at the place with insufficient ventilation.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

liquid at 20°C

color

data not available

Odour

data not available

Odour threshold

data not available

pH

1 (undiluted)

Melting point/freezing point

data not available

Initial boiling point and boiling range

data not available

Flash point

data not available

Evaporation rate

data not available

Flammability (solid, gas)

data not available

Upper/lower flammability or explosive limits

flammability limits

data not available

explosive limits

data not available

Vapour pressure

data not available

Vapour density

data not available

Relative density

data not available

Solubility(ies)

solubility in water

soluble

solubility in fats

data not available

Partition coefficient: n-octanol/water

data not available

Auto-ignition temperature

data not available

Decomposition temperature

data not available

Viscosity

data not available

Explosive properties

data not available

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Oxidising properties data not available

data not available

9.2. Other information

Density data not available

ignition temperature data not available

none

SECTION 10: Stability and reactivity

10.1. Reactivity

The mixture is non-flammable.

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

The product is stable under normal conditions.

10.4. Conditions to avoid

The product is stable and no degradation occurs under normal use. Protect against flames, sparks, overheating and against frost.

10.5. Incompatible materials

Protect against strong acids, bases and oxidizing agents. Thereby a dangerous exothermic reaction will be prevented.

10.6. Hazardous decomposition products

Not developed under normal uses. Dangerous products are formed at high temperature and in fire, such as carbon monoxide and carbon dioxide, heavy smoke and nitrogen oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

No toxicological data is available for the mixture.

Acute toxicity

Based on available data the classification criteria are not met.

Cerium (III) nitrate

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Oral	LD ₅₀	OECD 401	4200 mg/kg		Rat	
Dermal	LD ₅₀	OECD 402	2000 mg/kg		Rat	

nitric acid

Route of exposure	Parameter	Method	Value	Time of exposure	Species	Sex
Inhalation	LC ₅₀		260 mg/m ³	30 min	Rat	

Skin corrosion/irritation

Causes severe skin burns and eye damage.

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Serious eye damage/irritation

Based on available data the classification criteria are not met.

Cerium (III) nitrate

Route of exposure	Result	Time of exposure	Species
Eye	Highly irritating		Rabbit

Respiratory or skin sensitisation

Based on available data the classification criteria are not met.

Cerium (III) nitrate

Route of exposure	Result	Method	Time of exposure	Species	Sex
	Not sensitizing	OECD 429		Mouse	

Germ cell mutagenicity

Based on available data the classification criteria are not met.

Carcinogenicity

Based on available data the classification criteria are not met.

Reproductive toxicity

Based on available data the classification criteria are not met.

nitric acid

	Parameter	Value	Time of exposure	Specific target organ	Result	Species	Sex
Developmental toxicity	TDLo	21150 mg/kg	21 day	Fetus	Fetotoxicity	Rat	

Toxicity for specific target organ - single exposure

Based on available data the classification criteria are not met.

Toxicity for specific target organ - repeated exposure

Based on available data the classification criteria are not met.

Aspiration hazard

Based on available data the classification criteria are not met.

SECTION 12: Ecological information

12.1. Toxicity

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Acute toxicity

Data for the mixture are not available.

Cerium (III) nitrate

Parameter	Method	Value	Time of exposure	Species	Environment	Determining method	Source
LC ₅₀	OECD 203	0.3 mg/l	96 hour	Fishes (Oncorhynchus mykiss)		Semi static system	
EC ₅₀		6.9 mg/l	48 hour	Daphnia (Daphnia magna)		Semi static system	
NOEC		0.46 mg/l	72 hour	Algae (Pseudokirchneriella subcapitata)			

nitric acid

Parameter	Method	Value	Time of exposure	Species	Environment	Determining method	Source
LD ₅₀		100-10 mg/l	96 hour				medisalarm
LC 100		25-36 mg/l		Fishes			medisalarm
TLm		72 mg/l	96 hour	Fishes (Gambusia affinis)	Freshwater		
LC 100		36 mg/l		Fishes (Lepomis macrochirus)			
LC ₅₀		33-100 mg/l	48 hour	Aquatic invertebrates (Ophryotrocha diadema)	Salt water		

12.2. Persistence and degradability

The substance is not biodegradable.

12.3. Bioaccumulative potential

Insignificant.

12.4. Mobility in soil

The product is soluble and mobile in water and soil. Contamination of water courses may occur in the event of rain.

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Other adverse effects

Data not available.

SECTION 13: Disposal considerations

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13.1. Waste treatment methods

Hazard of environmental contamination; dispose of the waste in accordance with the local and/or national regulations. Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Perfectly cleaned containers can be submitted for recycling.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

20 01 14 Acids *

Packaging waste type code

15 01 10 packaging containing residues of or contaminated by hazardous substances *

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

SECTION 14: Transport information

14.1. UN number

UN 2031

14.2. UN proper shipping name

NITRIC ACID

14.3. Transport hazard class(es)

8 Corrosive substances

14.4. Packing group

II - substances presenting medium danger

14.5. Environmental hazards

not available

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not available

Additional information

Hazard identification No.

80 (Kemler Code)

UN number

2031

Classification code

C1

Safety signs

8



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SECTION 15: Regulatory information

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

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the 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, as amended. Regulation (EC) No. 1272/2008 of the European Parliament and of the Council of 16th 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, as amended.

15.2. Chemical safety assessment

not available

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

H272	May intensify fire; oxidiser.
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Guidelines for safe handling used in the safety data sheet

P260	Do not breathe vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a doctor.

A list of additional standard phrases used in the safety data sheet

EUH 071	Corrosive to the respiratory tract.
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Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

ADR	European agreement concerning the international carriage of dangerous goods by road
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
DNEL	Derived no-effect level
EC	Identification code for each substance listed in EINECS
EC ₅₀	Concentration of a substance when it is affected 50% of the population

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EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
IATA	International Air Transport Association
IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
IC ₅₀	Concentration causing 50% blockade
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC ₅₀	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD ₅₀	Lethal dose of a substance in which it can be expected death of 50% of the population
LOAEC	Lowest observed adverse effect concentration
LOAEL	Lowest observed adverse effect level
log K _{ow}	Octanol-water partition coefficient
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEC	No observed adverse effect concentration
NOAEL	No observed adverse effect level
NOEC	No observed effect concentration
NOEL	No observed effect level
OEL	Occupational Exposure Limits
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted no-effect concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very Persistent and very Bioaccumulative

Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment
Aquatic Chronic	Hazardous to the aquatic environment
Eye Dam.	Serious eye damage
Met. Corr.	Corrosive to metals
Ox. Liq.	Oxidising liquid
Skin Corr.	Skin corrosion

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

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not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. First aid principles after the exposure to the chemicals (Zásady pro poskytování první pomoci při expozici chemickým látkám, doc. MUDr. Daniela Pelclová, CSc., MUDr. Alexandr Fuchs, CSc., MUDr. Miroslava Hornychová, CSc., MUDr. Zdeňka Trávníčková, CSc., Jiřina Fridrichovská, prom. chem.). Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

More information

Classification procedure - calculation method.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.