

SAFETY DATA SHEET

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

1.1. Product identifier

Trade name

Senatel™ Powerfrag™

Product no.

-

REACH registration number

Not applicable

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

Relevant identified uses of the substance or mixture

SU2a - Mining (without offshore industries)

Uses advised against

-

The full text of any mentioned and identified use categories are given in section 16

1.3. Details of the supplier of the safety data sheet

Company and address

Orica UK Limited	Dexploc A/S
101 Dalton Avenue	Smedeland 7
Birchwood Park	DK – 2600 Glostrup
Warrington	Denmark
CHESHIRE WA3 6YF	
United Kingdom	
Tel. +44 1257 256100	+ 45 43 45 15 38

Contact person

sds.emea@orica.com / info@dexploc.com

E-mail

sds.emea@orica.com / info@dexploc.com

SDS date

2017-11-02 / 01-05-2021

SDS Version

1.0

1.4. Emergency telephone number

Contact The National Poisons Information Service (dial 111, 24 h service). See section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Expl. 1.1; H201
Eye Irrit. 2; H319

See full text of H-phrases in section 16.

2.2. Label elements

Hazard pictogram(s)**Signal word**

Danger

Hazard statement(s)

According to EC-Regulation 2015/830

Explosive; mass explosion hazard. (H201)

Safety statement(s)

General	-
Prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210). Do not subject to grinding/shock/friction. (P250). Wear protective gloves/protective clothing/eye protection/face protection. (P280).
Response	Explosion risk in case of fire. (P372). DO NOT fight fire when fire reaches explosives. (P373). In case of fire: Evacuate area. (P370+P380).
Storage	-
Disposal	-

Identity of the substances primarily responsible for the major health hazards

-

2.3. Other hazards

This product contains teratogenic substances, which may cause long-term adverse effects to the unborn foetus.

Additional labelling

-

Additional warnings

-

VOC

-

SECTION 3: Composition/information on ingredients

3.1/3.2. Substances/Mixtures

NAME:	Ammonium nitrate
IDENTIFICATION NOS.:	CAS-no: 6484-52-2 EC-no: 229-347-8 REACH-no: 01-2119490981-27
CONTENT:	60-80%
CLP CLASSIFICATION:	Ox. Liq. 3, Eye Irrit. 2 H272, H319
NAME:	Sodium Nitrate
IDENTIFICATION NOS.:	CAS-no: 7631-99-4 EC-no: 231-554-3 REACH-no: 01-2119488221-41
CONTENT:	5 - <10%
CLP CLASSIFICATION:	Ox. Sol. 3, Eye Irrit. 2 H272, H319
NAME:	Distillates (petroleum), hydrotreated light naphthenic
IDENTIFICATION NOS.:	CAS-no: 64742-53-6 EC-no: 265-156-6 REACH-no: 01-2119480375-34 Index-no: 649-466-00-2
CONTENT:	1 - <2.5%
CLP CLASSIFICATION:	Asp. Tox. 1 H304 L)
NAME:	Thiourea
IDENTIFICATION NOS.:	CAS-no: 62-56-6 EC-no: 200-543-5 REACH-no: 05-2114370696-37 Index-no: 612-082-00-0
CONTENT:	0.1 - <0.25%
CLP CLASSIFICATION:	Acute Tox. 4, Carc. 2, Repr. 2, Aquatic Chronic 2 H302, H351, H411, H361d

(*) See full text of H-phrases in section 16. Occupational exposure limits are listed in section 8, if these are available.

Other information

ATEmix(oral) > 2000
Eye Cat. 2 Sum = Sum(Ci/S(G)CLi) = 1,5104 - 2,2656

L) Less than 3% DMSO extract as measured by IP 346.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

In the case of accident: Contact a doctor or casualty department – take the label or this safety data sheet. The doctor can contact The National Poisons Information Service (dial 111, 24 h service). Contact a doctor if in doubt about the injured person's condition or if the symptoms persist. Never give an unconscious person water or other drink.

Inhalation

In case of inhalation of decomposition products, affected person should be moved into fresh air and kept still. If breathing is irregular or stopped, administer artificial respiration.

Skin contact

Immediately remove contaminated clothing and shoes. Ensure that skin, which has been exposed to the material, is washed thoroughly with soap and water. Skin cleanser can be used. DO NOT use solvents or thinners.

Eye contact

Remove contact lenses and open eyes widely. Flush eyes with water or saline water (20-30°C) for at least 15 minutes. Seek medical assistance and continue flushing during transport.

Ingestion

Provide plenty of water for the person to drink and stay with him/her. In case of malaise, seek medical advice immediately and bring the safety data sheet or label from the product. Do not induce vomiting, unless recommended by the doctor. Have the victim lean forward with head down to avoid inhalation of- or choking on vomited material.

Burns

Rinse with water until the pain stops then continue to rinse for a further 30 minutes.

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

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

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

Nothing special

Information to medics

Bring this safety data sheet.

SECTION 5: Firefighting measures

5.1. Extinguishing media

DO NOT attempt firefighting, risk of explosion.

5.2. Special hazards arising from the substance or mixture

The product is an explosive. In case of fire, the following products may be liberated: Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂), Ammonia (NH₃).

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Restrict the number of action force members in the hazard area. Do not inhale explosion and combustion gases. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Measures in case of adjacent fire (Fire has not yet reached product): Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. Move undamaged containers from immediate hazard area if it can be done safely.

Measures in case of product fire (Fire has just reached the product or is about to reach it): No fire-fighting attempts, risk of explosion. Immediately evacuate danger zone and seek safe cover.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: Avoid contact with the substance. Wear suitable protective equipment before handling. Follow emergency procedures. Evacuate the danger area and notify your supervisor. Ask for assistance from a competent person.

For emergency responders: Close off the hazard area. Ask for assistance from a competent person.

6.2. Environmental precautions

Avoid discharge to lakes, streams, sewers, etc. In the event of leakage to the surroundings, contact local environmental authorities.

6.3. Methods and material for containment and cleaning up

Use only non-sparking tools. Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See section on "Disposal considerations" in regard of handling of waste. See section on 'Exposure controls/personal protection' for protective measures.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Only to be handled by authorised persons. The explosives must be under supervision and kept away from unauthorised persons. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not subject to grinding, shock, friction. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed outside of the workplace. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Store in original packaging if possible. Explosives and explosive articles should be stored in accordance with the licence issued by the relevant national authority. Store under cool conditions. Store under dry conditions. Stable under normal storage conditions. Maximum storage quantity should be agreed with national authorities. Store in a well-ventilated place. Store in a closed container.

Storage temperature

-30°C - 30°C

7.3. Specific end use(s)

This product should only be used for applications quoted in section 1.2

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

OEL

Ammonia, anhydrous

Long-term exposure limit (8-hour TWA reference period): 25 ppm | 18 mg/m³

Short-term exposure limit (15-minute reference period): 35 ppm | 25 mg/m³

Nitrogen monoxide

Long-term exposure limit (8-hour TWA reference period): 25 ppm | 31 mg/m³

Short-term exposure limit (15-minute reference period): 35 ppm | 44 mg/m³

Carbon monoxide

Long-term exposure limit (8-hour TWA reference period): 30 ppm | 35 mg/m³

Short-term exposure limit (15-minute reference period): 200 ppm | 232 mg/m³

Carbon dioxide

Long-term exposure limit (8-hour TWA reference period): 5000 ppm | 9150 mg/m³

Short-term exposure limit (15-minute reference period): 15000 ppm | 27400 mg/m³

DNEL / PNEC

DNEL (Ammonium nitrate): 21.3 mg/kg bw/d

Exposure: Dermal

Duration of Exposure: Long term – Systemic effects - Workers

DNEL (Ammonium nitrate): 37.6 mg/m³

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - Workers

DNEL (Distillates (petroleum), hydrotreated light naphthenic): 5.4 mg/m³

Exposure: Inhalation

Duration of Exposure: Long term – Local effects - Workers

DNEL (Sodium Nitrate): 36.7 mg/m³

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - Workers

According to EC-Regulation 2015/830

DNEL (Sodium Nitrate): 20.8 mg/kg
Exposure: Dermal
Duration of Exposure: Long term – Systemic effects - Workers
DNEL (Thiourea): 3.4 mg/kg bw/d
Exposure: Dermal
Duration of Exposure: Long term – Systemic effects - Workers
DNEL (Thiourea): 0.1 mg/kg bw/d
Exposure: Oral
Duration of Exposure: Long term – Systemic effects - Workers
PNEC (Ammonium nitrate): 0.45 mg/l
Exposure: Freshwater
PNEC (Ammonium nitrate): 0.045 mg/l
Exposure: Marine water
PNEC (Ammonium nitrate): 4.5 mg/l
Exposure: Intermittent release
PNEC (Ammonium nitrate): 18 mg/l
Exposure: Sewage Treatment Plant
PNEC (Sodium Nitrate): 18 mg/l
Exposure: Sewage Treatment Plant
Duration of Exposure: Single
PNEC (Sodium Nitrate): 0.45 mg/l
Exposure: Freshwater
Duration of Exposure: Single
PNEC (Sodium Nitrate): 0.045 mg/l
Exposure: Marine water
Duration of Exposure: Single
PNEC (Sodium Nitrate): 4.5 mg/l
Exposure: Intermittent release
PNEC (Thiourea): 0.01 mg/l
Exposure: Freshwater
PNEC (Thiourea): 1 µg/l
Exposure: Marine water
PNEC (Thiourea): 0.038 mg/l
Exposure: Intermittent release
PNEC (Thiourea): 0.38 mg/l
Exposure: Sewage Treatment Plant
PNEC (Thiourea): 72.5 µg/kg dw
Exposure: Freshwater sediment
PNEC (Thiourea): 7.25 µg/kg dw
Exposure: Marine water sediment
PNEC (Thiourea): 2.725 mg/kg dw
Exposure: Soil

8.2. Exposure controls

Compliance with the accepted occupational exposure limits values should be controlled on a regular basis.

General recommendations

Observe general occupational hygiene standards.

Exposure scenarios

In the event exposure scenarios are appended to the safety data sheet, the operational conditions and risk management measures in these shall be complied with.

Exposure limits

Professional users are subjected to the legally set maximum concentrations for occupational exposure. See occupational hygiene limit values above.

Appropriate technical measures

Airborne gas and dust concentrations must be kept at a minimum and below current limit values (see above). Installation of an exhaust system if normal air flow in the work room is not sufficient is recommended. Ensure emergency eyewash and -showers are clearly marked.

Hygiene measures

In between use of the product and at the end of the working day all exposed areas of the body must be washed thoroughly. Always wash hands, forearms and face.

Measures to avoid environmental exposure

Excessive exposure of ammonium nitrate can lead to an over-fertilization of soil and waters, therefore careful handling of the product is mandatory.

Individual protection measures, such as personal protective equipment



Generally

Use only CE marked protective equipment.

Respiratory Equipment

No specific requirements.

Skin protection

Dedicated work clothing should be worn.

Hand protection

Suitable material: NBR (nitrile rubber), EN 388.

Eye protection

Eye glasses with side protection, EN 166.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Form	Gel
Colour	White
Odour	None
Odour threshold (ppm)	No data available.
pH	No data available.
Viscosity (40°C)	No data available.
Density (g/cm ³)	1.15-1.23 (20°C)

Phase changes

Melting point (°C)	No data available.
Boiling point (°C)	No data available.
Vapour pressure	No data available.
Decomposition temperature (°C)	No data available.
Evaporation rate (n-butylacetate = 100)	No data available.

Data on fire and explosion hazards

Flash point (°C)	No data available.
Ignition (°C)	No data available.
Auto flammability (°C)	No data available.
Explosion limits (% v/v)	No data available.
Explosive properties	Explosive
Oxidising properties	Oxidising properties.

Solubility

Solubility in water	Insoluble
n-octanol/water coefficient	No data available.

9.2. Other information

Solubility in fat (g/L)	No data available.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Product is an explosive.

10.2. Chemical stability

The product is stable under the conditions, noted in the section "Handling and storage".

10.3. Possibility of hazardous reactions

Risk of explosion by shock, friction, fire or other sources of ignition.

10.4. Conditions to avoid

Avoid static electricity.
Mechanical influences (e.g. shock, pressure, impact, friction). Fire, sparks or other ignition sources.

10.5. Incompatible materials

Reducing agent, Acids, Alkalis, Combustible products, Metal powders, Chromates, Zinc, Copper, Copper alloys, Chlorates.

10.6. Hazardous decomposition products

Ammonia (NH₃), Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

Substance	Species	Test	Route of exposure	Result
Thiourea	Rat	LD50	Oral	2000-2500 mg/kg bw
Thiourea	Rabbit	LD50	Dermal	2800 mg/kg bw
Distillates (petroleum), hydro...	Rat	LD50	Oral	>5000 mg/kg bw
Distillates (petroleum), hydro...	Rabbit	LD50	Dermal	>2000 mg/kg bw
Distillates (petroleum), hydro...	Rat	LC50	Inhalation	>5.53 mg/l
Sodium Nitrate	Rat	LD50	Oral	3430 mg/kg bw
Sodium Nitrate	Rat	LD50	Dermal	5000 mg/kg bw
Ammonium nitrate	Rat	LD50	Oral	2950 mg/kg
Ammonium nitrate	Rat	LD50	Dermal	>5000 mg/kg

Skin corrosion/irritation

No data available.

Serious eye damage/irritation

Causes serious eye irritation.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

No data available.

Long term effects

Reproductive toxicity: This product contains teratogenic substances, which may produce anomalies and/or developmental defects to the human offspring. Adverse effects include: death, growth retardation, congenital disorders, delayed mental development, and functional disorders.

Carcinogenic effects: This product contains substances considered or proven to be carcinogenic. The carcinogenic effects may be triggered subsequent to exposure through inhalation, skin contact or ingestion.

Irritation effects: This product contains substances, which may cause irritation upon exposure to skin, eyes or lungs. Exposure may result in an increased absorption potential of other hazardous substances at the area of exposure.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Species	Test	Duration	Result
Thiourea	Daphnia	EC50	48h	35 mg/l
Thiourea	Fish	LC50	48h	10 g/l
Distillates (petroleum), hydro...	Fish	NOEC	96h	≥100 mg/l
Distillates (petroleum), hydro...	Algae	IC50	72h	>100 mg/l
Sodium Nitrate	Fish	LC50	24h	11.8 g/l
Sodium Nitrate	Daphnia	EC50	24h	8609 mg/l
Sodium Nitrate	Algae	EC50	10d	1700 mg/l
Ammonium nitrate	Fish	LC50	48h	447 mg/l
Ammonium nitrate	Daphnia	EC50	48h	490 mg/l
Ammonium nitrate	Algae	EC50	10d	1700 mg/l

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
No data available.			

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	BCF
No data available.			

12.4. Mobility in soil

No data available

12.5. Results of PBT and vPvB assessment

This mixture/product does not contain any substances considered to meet the criteria classifying them as PBT and/or vPvB.

12.6. Other adverse effects

This product contains substances that are toxic to the environment. May result in adverse effects to aquatic organisms. This product contains substances, which due to poor biodegradability, may cause adverse long-term effects to the aquatic environment,

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product is covered by the regulations on hazardous waste.

Burn under supervision of an expert at a government-approved explosive burning ground or destroy, by detonation in boreholes, in accordance with applicable local, provincial and federal laws.

Waste

EWC code

16 04 03* other waste explosives

Specific labelling

-

Contaminated packing

Contaminated packaging must be disposed of similarly to the product.

SECTION 14: Transport information

14.1 – 14.4

This product is within scope of the regulations of transport of dangerous goods.

ADR/RID

14.1. UN number	0241
14.2. UN proper shipping name	EXPLOSIVE, BLASTING, TYPE E
14.3. Transport hazard class(es)	1.1D
14.4. Packing group	II
Notes	-
Tunnel restriction code	B1000C

IMDG

UN-no.	0241
Proper Shipping Name	EXPLOSIVE, BLASTING, TYPE E
Class	1.1D
PG*	II
EmS	F-B, S-Y
MP**	No
Hazardous constituent	-

IATA/ICAO

UN-no.	0241
Proper Shipping Name	EXPLOSIVE, BLASTING, TYPE E
Class	1.1D
PG*	II

14.5. Environmental hazards

-

14.6. Special precautions for user

Product is an explosive.

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

No data available

(*) Packing group

(**) Marine pollutant

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Restrictions for application**

People under the age of 18 shall not be exposed to this product cf. Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.

Demands for specific education

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Additional information

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Sources

Council Directive 94/33/EC of 22 June 1994 on the protection of young people at work.
The Control of Substances Hazardous to Health Regulations 2002. SI 2002/2677. The Stationery Office, 2002.

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 (CLP).

EC regulation 1907/2006 (REACH).

15.2. Chemical safety assessment

No

SECTION 16: Other information**Full text of H-phrases as mentioned in section 3**

H272 - May intensify fire; oxidiser.

H302 - Harmful if swallowed.

H304 - May be fatal if swallowed and enters airways.

H319 - Causes serious eye irritation.

H351 - Suspected of causing cancer.

H411 - Toxic to aquatic life with long lasting effects.

H361d - Suspected of damaging the unborn child.

The full text of identified uses as mentioned in section 1

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Additional label elements

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Other

In accordance with Regulation (EC) No. 1272/2008 (CLP) the evaluation of the classification of the mixture is based on:

The classification of the mixture in regard of physical hazards has been based on experimental data.

The classification of the mixture in regard of health hazards are in accordance with the calculation methods given by Regulation (EC) No. 1272/2008 (CLP)

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

A change (in proportion to the last essential change (first cipher in SDS version, see section 1)) is marked with a blue triangle.

The safety data sheet is validated by

Thomas Lagerström

**Date of last essential change
(First cipher in SDS version)**

-

**Date of last minor change
(Last cipher in SDS version)**

-



According to EC-Regulation 2015/830

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