

SAFETY DATA SHEET

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

1.1. Product identifier

Trade name

i-kon™ II, i-kon™ II RX, uni tronic™ 600, eDev™ II

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
4 Stonecrop
North Quarry Business Pk
Appley Bridge
Wigan WN6 9DL
United Kingdom
Phone +44 1942 256 100

Contact person

-

E-mail

sds.emea@orica.com

SDS date

2017-06-01

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
Repr. 1; H360D
STOT RE 2; H373

See full text of H-phrases in section 16.

2.2. Label elements

Hazard pictogram(s)**Signal word**

Danger

Hazard statement(s)

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).
DO NOT fight fire when fire reaches explosives. (P373).
In case of fire: Evacuate area. (P370+P380).
Explosion risk. (P372).

Response

Storage

Disposal

-

-

Identity of the substances primarily responsible for the major health hazards

Lead azide

2.3. Other hazards

The product contains one or several substance(s) included in ECHA's list of Substances of Very High Concern (SVHC)

The yellow insulation of the lead wire contain the following substance of very high concern:

- Lead sulfochromate yellow (C.I. Pigment Yellow 34); 0.9 %(w/w); CAS No.: 1344-37-2, EC No.: 215-693-7

Additional labelling

-

Additional warnings

-

VOC

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SECTION 3: Composition/information on ingredients**3.1/3.2. Substances/Mixtures**

| | |
|----------------------|--|
| NAME: | PETN |
| IDENTIFICATION NOS.: | CAS-no: 78-11-5 EC-no: 201-084-3 REACH-no: 01-2119557827-23 Index-no: 603-035-00-5 |
| CONTENT: | 80-95% |
| CLP CLASSIFICATION: | Unst. Expl. H200 |

| | |
|----------------------|---|
| NAME: | Lead azide |
| IDENTIFICATION NOS.: | CAS-no: 13424-46-9 EC-no: 236-542-1 REACH-no: 01-2119475503-38 |
| CONTENT: | 10 - <15% |
| CLP CLASSIFICATION: | Unst. Expl., Acute Tox. 4, STOT RE 2, Repr. 1A, Aquatic Acute 1 H200, H302, H332, H360, H373, H400 (M-acute = 1) |

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

Other information

ATEmix(inhale, vapour) > 20
ATEmix(oral) > 2000
N acute (CAT 1) Sum = Sum(Ci/M(acute)ⁱ*25) = 0,416 - 0,624

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.

Due to the sealed assembly of the article, no contact with the ingredients is to be expected under normal use.

Inhalation

Bring the person into fresh air and stay with him.

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. Flush eyes immediately with plenty of water or isotonic water (20-30°C) for at least 15 minutes and continue until irritation stops. Make sure to flush under the upper and lower eyelids. If irritation continues, contact a doctor. 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

Nothing special

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), Lead containing reaction products.

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

Due to the consistency and product packaging spillage of ingredients is not likely.

6.3. Methods and material for containment and cleaning up

Due to the consistency and product packaging spillage of ingredients is not likely.

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

-20°C - 50°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

Lead and inorganic compounds (as Pb)

Long-term exposure limit (8-hour TWA reference period): - ppm | 0.15 mg/m³

Short-term exposure limit (15-minute reference period): - ppm | - 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 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

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

DNEL / PNEC

DNEL (PETN): 220.4 mg/m³

Exposure: Inhalation

Duration of Exposure: Long term – Systemic effects - Workers

PNEC (PETN): 0.3 mg/l

Exposure: Freshwater

PNEC (Lead and inorganic compounds (as Pb)): 6.5 µg/l

Exposure: Freshwater

PNEC (Lead and inorganic compounds (as Pb)): 3.4 µg/l

Exposure: Marine water

PNEC (Lead and inorganic compounds (as Pb)): 100 µg/l

Exposure: Sewage Treatment Plant

PNEC (Lead and inorganic compounds (as Pb)): 174 mg/kg dw

Exposure: Freshwater sediment

PNEC (Lead and inorganic compounds (as Pb)): 164 mg/kg dw

Exposure: Marine water sediment

PNEC (Lead and inorganic compounds (as Pb)): 147 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

Exhaust air that contains the substances shall not be recirculated. 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

Keep containment materials near the workplace. If possible, collect spillage during work.

Individual protection measures, such as personal protective equipment



Generally

Use only CE marked protective equipment.

Respiratory Equipment

If ventilation at the work place is insufficient, use a half- or full mask with an appropriate filter or an air-supplied breathing apparatus depending on the specific work situation and how long you will be using the product.

Skin protection

Dedicated work clothing should be worn. Wear a protective suit in the event of prolonged periods of work with the product.

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 | Solid |
| Colour | No data available. |
| Odour | No data available. |
| Odour threshold (ppm) | No data available. |
| pH | No data available. |
| Viscosity (40°C) | No data available. |
| Density (g/cm ³) | No data available. |

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 | No data available. |

Solubility

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

9.2. Other information

| | |
|-------------------------|--------------------|
| Solubility in fat (g/L) | No data available. |
|-------------------------|--------------------|

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

Strong acids, strong bases, strong oxidizing agents, and strong reducing agents.

10.6. Hazardous decomposition products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂), Lead containing reaction products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity

| Substance | Species | Test | Route of exposure | Result |
|------------------------------------|---------|------|-------------------|----------------|
| Lead and inorganic compounds (...) | Rat | LD50 | Oral | >2000 mg/kg bw |
| Lead and inorganic compounds (...) | Rat | LC50 | Inhalation | 5.05 mg/l air |
| Lead and inorganic compounds (...) | Rat | LD50 | Dermal | 2000 mg/kg bw |
| Lead azide | Rat | TDL0 | Oral | 3920 mg/kg |
| PETN | Rat | LD50 | Oral | 2500 mg/kg |

Skin corrosion/irritation

No data available.

Serious eye damage/irritation

No data available.

Respiratory or skin sensitisation

No data available.

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

May damage fertility or the unborn child.

STOT-single exposure

No data available.

STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure.

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.

Reproductive toxicity: This product contains reprotoxic substances, which may harm the reproductive capacity. Adverse effects include: sterility, effects on the sexual function, lowered effective fertility and dysfunctional menstrual cycle.

SECTION 12: Ecological information

12.1. Toxicity

| Substance | Species | Test | Duration | Result |
|------------------------------------|---------|------|----------|-----------|
| Lead and inorganic compounds (...) | Fish | LC50 | 96h | 0.61 mg/l |
| Lead and inorganic compounds (...) | Daphnia | EC50 | 48h | 0.39 mg/l |
| PETN | Fish | LC50 | 96h | 926 mg/l |

According to EC-Regulation 2015/830

| | | | | |
|------|---------|------|-----|----------|
| PETN | Daphnia | EC50 | 48h | 292 mg/l |
|------|---------|------|-----|----------|

12.2. Persistence and degradability

| | | | |
|--------------------|------------------|------|--------|
| Substance | Biodegradability | Test | Result |
| No data available. | | | |

12.3. Bioaccumulative potential

| | | | |
|-----------|---------------------------|--------|-------------------|
| Substance | Potential bioaccumulation | LogPow | BCF |
| PETN | No | 2,38 | No data available |

12.4. Mobility in soil

PETN: Log Koc= 1,963122, Calculated from LogPow (High mobility potential.).

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.

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.

By using special approved packaging a reduction of a explosive hazard is possible.

ADR/RID

| | |
|----------------------------------|----------------------|
| 14.1. UN number | 0030, 0456 |
| 14.2. UN proper shipping name | DETONATORS, ELECTRIC |
| 14.3. Transport hazard class(es) | 1.1B, 1.4S |
| 14.4. Packing group | II |
| Notes | - |
| Tunnel restriction code | B1000C, E |

IMDG

| | |
|-----------------------|----------------------|
| UN-no. | 0030, 0456 |
| Proper Shipping Name | DETONATORS, ELECTRIC |
| Class | 1.1B, 1.4S |
| PG* | II |
| EmS | F-B, S-X |
| MP** | No |
| Hazardous constituent | - |

IATA/ICAO

| | |
|----------------------|----------------------|
| UN-no. | 0030, 0456 |
| Proper Shipping Name | DETONATORS, ELECTRIC |
| Class | 1.1B, 1.4S |
| PG* | II |

According to EC-Regulation 2015/830

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.

Industrial use only.

Pregnant women and women breastfeeding must not be exposed to this product. The risk, and possible technical precautions or design of the workplace needed to eliminate exposure, must be considered.

Demands for specific education

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Additional information

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Sources

Council Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding.

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

H200 - Unstable explosives.

H302 - Harmful if swallowed.

H332 - Harmful if inhaled.

H360 - May damage fertility or the unborn child.

H373 - May cause damage to organs through prolonged or repeated exposure^a.

H400 - Very toxic to aquatic life.

The full text of identified uses as mentioned in section 1

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Additional label elements

-

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.

According to EC-Regulation 2015/830

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)**

-

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