

Product 420 A
 Revision date 23 January 2018
 Revision 1



Safety Data Sheet (SDS)

Section 1: Identification of the substance/preparation and of the company/undertaking

1.1 Product identifier

Product name 420 A
Synonyms, Trade names No information available.

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

Identified uses Vacuum casting.
Uses advised against Any other purpose.

1.3 Details of the supplier of the safety data sheet

Supplier Renishaw plc
 Brooms Road
 Stone Business Park
 Stone, Staffordshire
 ST15 0SH
 United Kingdom
 Tel: +44 (0) 1785 285000 (during UK office hours 09:00 to 17:00 UTC).
 msds@renishaw.com

Contact person

1.4 Emergency telephone number

Emergency telephone 999 / 911 or local emergency number

Section 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (EC 1272/2008)
 Physical and chemical hazards Not classified
 Human health Eye Irrit.2A - H319, Asp. Tox - H304
 Environment Aquatic Chronic 4 - H413

2.2 Label elements

Contains Bis(isopropyl)naphthalene
 Distillates (petroleum)
 Hydrocarbons, C9, aromatics

Label in accordance with (EC) no. 1272/2008



Signal word Danger

Hazard statements H304 May be fatal if swallowed and enters airways.
 H319 Causes serious eye irritation.
 H413 May cause long lasting harmful effects to aquatic life.

Precautionary statements **Prevention**
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/eye protection/face protection.
Response

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P370 + P378 In case of fire: Use dry chemical, carbon dioxide, chemical foam and water spray for extinction.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.

2.3 Other hazards

None known.

Section 3: Composition/identification of ingredients**3.1 Substance**

Not applicable.

3.2 Mixtures

Name	Product identifier	Reg. EU 1272/2008	%
Ethylenediamine, propoxylated	CAS-No.: 25214-63-5 EC No.: 500-035-6 REACH Reg No.: 01-2119471485-32-0002	Eye Irrit.2A - H319	30-<50%
Bis(isopropyl)naphthalene	CAS-No.: 38640-62-9 EC No.: 254-052-6	Asp. Tox - H304, Aquatic Chronic 4 - H413	25-<30%
Distillates (petroleum)	CAS-No.: 64742-47-8 EC No.: 265-149-8	Asp. Tox - H304	10-<12.5%
Hydrocarbons, C9, aromatics	CAS-No.: EC No.: 918-668-5 REACH Reg No.: 01-2119455851-35-XXXX	Aquatic Chronic 2 - H411, Asp. Tox - H304, Flam. Liq 3- H226, STOT SE 3 - H336, STOT SE 3 - H335	.25-<.50%

The full text for all hazard statements are displayed in section 16.

Composition comments

The data shown are in accordance with the latest EC Directives.

Section 4: First aid measures**4.1 Description of first aid measures****General information**

Provide general first aid, rest, warmth and fresh air. As a general rule, in case of doubt or if symptoms persist, always call a doctor. Seek medical attention for all burns and eye injuries, regardless how minor they may seem. First aid personnel must be aware of own risk during rescue. Show this safety data sheet or product label to medical personnel.

Inhalation

If this product is inhaled and symptoms occur, move the exposed person to fresh air promptly. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention.

Ingestion

Provide fresh air, warmth and rest, preferably in comfortable upright sitting position. Induce vomiting only when directed by medical personnel and person is conscious. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head low and/or keep airway clear. If swallowed, seek medical advice immediately and show the container or label.

Skin contact

Remove affected person from source of contamination. Remove contaminated clothing. Wash the skin immediately with soap and water. Get medical attention promptly if symptoms occur after washing.

Eye contact

Do not rub eye. If this product contacts the eyes, gently flush eyes with water for at least fifteen (15) minutes, lifting the upper and lower eyelids occasionally. Avoid contaminating unaffected eye. Seek medical attention. Remove contact lenses if present and easy to do so.

4.2 Most important symptoms and effects, both acute and delayed**General information**

The severity of the symptoms described will vary dependent on the concentration and the length of exposure. May be fatal if swallowed and enters airways.

Inhalation

May be fatal if product is aspirated or swallowed and enters airways.

Ingestion

May cause discomfort if swallowed. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

Skin contact	Prolonged contact with skin may cause irritation.
Eye contact	Causes serious eye irritation. Symptoms may include lachrymation (watering of the eyes) and redness.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to the physician	Treat symptomatically.
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Section 5: Fire-fighting measures

5.1 Extinguishing media

Extinguishing media	Use fire-extinguishing media appropriate for surrounding materials. Dry chemical, carbon dioxide, chemical foam and water spray.
Unsuitable extinguishing media	Do not use water jet as an extinguisher.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products	In case of fire, toxic gases (CO, CO ₂ ,) may be formed. Nitrogen oxides (NO _x). If sulphur compounds are present in appreciable amounts, combustion products may include also H ₂ S and SO _x (sulfur oxides) or sulfuric acid.
Unusual fire & explosion hazards	No unusual fire or explosion hazards noted.
Specific hazards	If heated, harmful vapours may be formed. Floors may become slippery, avoid falls. Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters

Special fire fighting procedures	If possible, fight fire from protected position. Ventilate closed spaces before entering them. Keep up-wind to avoid fumes. Containers close to fire should be removed immediately or cooled with water if safe to do so. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Protective equipment for firefighters	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

Section 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of dust or vapours and contact with skin and eyes. Provide adequate ventilation. In case of inadequate ventilation, use respiratory protection. Do not smoke, eat or drink while using this product. Eliminate all sources of ignition. Wash hands after use. Read and follow manufacturer's recommendations. Do not touch or walk through spilled material. If necessary evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering.
For emergency responders	Follow safe handling advice and personal protective equipment recommendations for normal use of product.

6.2 Environmental precautions

Environmental precautions	Do not discharge into drains, water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.
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6.3 Methods and material for containment and cleaning up

Spill clean up methods	Ventilate and evacuate the area. Eliminate all ignition sources. Wear appropriate personal protective equipment as specified in Section 8. Stop leak if possible without risk. Cover drains. In case of a large scale of spill, dyke area with sand to stop the spill spreading. Absorb spillage with non-combustible, absorbent material - sand. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.
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6.4 Reference to other sections

Reference to other sections See section 1 for emergency contact. For personal protection, see section 8. For waste disposal, see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

Handling Keep away from heat, sparks and open flame. Do not eat, drink or smoke when using the product. Do not use contact lenses. Provide good ventilation. Wear suitable personal protective equipment. Avoid inhalation of vapours and contact with skin and eyes.

7.2 Conditions for safe storage, including any incompatibilities

Storage precautions Keep away from heat, sparks, direct sunlight and open flames. Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from incompatible materials (see section 10).

Storage class Hazardous material storage.

7.3 Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.
Usage description Use only according to directions. Replace and tighten cap after use.

Section 8: Exposure controls/Personal protection

8.1 Control parameters

Ingredient comments The National Institute for Occupational Safety and Health (NIOSH). WEL - Workplace Exposure Limits - EH40/2005 Workplace exposure limits. No exposure limits noted for ingredient(s).

8.2 Exposure Controls

Protective equipment



Engineering measures

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Provide good ventilation and/or an exhaust system in the work area.

Respiratory equipment

Where risk assessment shows air-purifying respirators are appropriate a full face respirator conforming to EN143 should be used, and suitable respirator cartridges as a backup to engineering controls. Recommended: Respirator with combination filter for organic vapour/particulate (EN 141). Type A/P2. Consult manufacturer for specific advice. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as CEN (EU). Change filters frequently. Use respiratory protection as specified by an industrial hygienist or other qualified professional.

Hand protection

Selection of the glove material depends on consideration of the penetration times, rates of diffusion and degradation, and concentration specific to the workplace. Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374) is recommended. Gloves must be inspected prior to use. Suggested material: Nitrile rubber. Minimum layer thickness: ≥ 0.35 mm. Breakthrough time: >480 minutes. Consult manufacturer for specific advice.

Eye protection

Change gloves regularly. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wear safety goggles or face shield to prevent any possibility of eye contact. Use equipment for eye protection tested and approved under appropriate government standards such as EN 166(EU).

Other protection	Protective clothing should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Protective clothing should conform to EN 14605 for liquid splashes. The selected clothing must satisfy the European norm standard EN 943.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practice. Observe normal hygiene standards. Keep container tightly closed. Do not eat, drink or smoke during use. Wash promptly if skin becomes contaminated.
Process conditions	Ensure that eye flushing systems and safety showers are located close by in the work place.

Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Liquid.
Colour	White.
Odour	Light odour.
Odour threshold - lower	No information available.
Odour threshold - upper	No information available.
pH-Value, Conc. Solution	No information available.
pH-Value, Diluted solution	No information available.
Melting point	No information available.
Initial boiling point and boiling range	>200°C.
Flash point	200°C.
Evaporation rate	No information available.
Flammability state	No information available.
Flammability limit - lower(%)	No information available.
Flammability limit - upper(%)	No information available.
Vapour pressure	No information available.
Vapour density (air=1)	No information available.
Relative density	0.98g/cm ³ @ 25.00 °C
Bulk density	No information available.
Solubility	Insoluble in water.
Decomposition temperature	No information available.
Partition coefficient; n-Octanol/Water	No information available.
Auto ignition temperature (°C)	No information available.
Viscosity	40 - 80 mPa.s (25°C).
Explosive properties	Not classified as explosive.
Oxidising properties	No information available.

9.2 Other information

Molecular weight	No information available.
Volatile organic compound	No information available.
Other information	None noted.

Section 10: Stability and reactivity

10.1 Reactivity

Reactivity Stable under recommended transport and storage conditions and under recommended use. See section 10.3 for further information.

10.2 Chemical stability

Stability Stable under normal temperature conditions and recommended use.

10.3 Possibility of hazardous reactions

Hazardous reactions Reacts with acids, alkalis and oxidizing agents. Reaction with isocyanates.
Hazardous polymerisation May polymerise.
Polymerisation description No information available.

10.4 Conditions to Avoid

Conditions to avoid Heat, sparks, open flames, temperature extremes and direct sunlight. Fine powder or dust dispersed in air in a confined space.

10.5 Incompatible materials

Materials to avoid Keep away from strong oxidizing agents, strong acids and strong caustics. Protect from moisture. Isocyanates.

10.6 Hazardous decomposition products

Hazardous decomposition products Thermal decomposition may release acrid fumes, smoke and carbon monoxide. In case of fire, toxic gases (CO, CO₂, NO_x) may be formed. If sulphur compounds are present in appreciable amounts, combustion products may include also H₂S and SO_x (sulfur oxides) or sulfuric acid.

Section 11: Toxicological information

11.1 Information on toxicological effects

Toxicological information No toxicological information for the overall finished product.

Acute toxicity (Oral LD50) No information available.

Acute toxicity (Dermal LD50) No information available.

Acute toxicity (Inhalation LD50) No information available.

Serious eye damage/irritation Causes serious eye irritation.

Skin corrosion/irritation No information available.

Respiratory sensitisation No information available.

Skin sensitisation No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Specific target organ toxicity - Single exposure:

STOT - Single exposure No information available.

Specific target organ toxicity - Repeated exposure:

STOT - Repeated exposure No information available.

Inhalation

Ingestion

May be fatal if product is aspirated or swallowed and enters airways.

May cause discomfort if swallowed. Aspiration of the swallowed or vomited product can cause severe pulmonary complications.

Skin contact

Prolonged contact with skin may cause irritation.

Eye contact

Causes serious eye irritation. Symptoms may include lachrymation (watering of the eyes) and redness.

Waste management

When handling waste, consideration should be made to the safety precautions applying to handling of the product.

Routes of entry	No information available.
Target organs	Eyes, skin, respiratory system.
Aspiration hazards:	May be fatal if swallowed and enters airways.
Reproductive toxicity:	No information available.

Name	LD50 oral	LD50 dermal	LD50 inhalation
Bis(isopropyl)naphthalene			>5.64mg/l (vapours) Rat 4 Hours

Section 12: Ecological information

12.1 Toxicity

Acute toxicity - Fish	No information available.
Acute toxicity - Aquatic invertebrates	No information available.
Acute toxicity - Aquatic plants	No information available.
Acute toxicity - Microorganisms	No information available.
Chronic toxicity - Fish	No information available.
Chronic toxicity - Aquatic invertebrates	No information available.
Chronic toxicity - Aquatic plants	No information available.
Chronic toxicity - Microorganisms	No information available.
Ecotoxicity	May cause long lasting harmful effects to aquatic life.
Eco toxicological information	No ecological toxicity available on the overall finished product.

12.2 Persistence and degradability

Degradability	No information available.
Biological oxygen demand	No information available.
Chemical oxygen demand	No information available.

12.3 Bioaccumulative potential

Bioaccumulative potential	No data available on bioaccumulation.
Bioaccumulation factor	No information available.
Partition coefficient; n-Octanol/Water	No information available.

12.4 Mobility in soil

Mobility	No information available.
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12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	Product is not identified as PBT or vPvB.
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12.6 Other adverse effects

Other adverse effects	No information available.
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Name	Acute toxicity (Fish)	Acute toxicity (Aquatic invertebrates)	Acute toxicity (Aquatic plants)
Bis(isopropyl)naphthalene	LC50 96 Hours >0.50ppm		

Section 13: Disposal considerations

Waste management	When handling waste, consideration should be made to the safety precautions applying to handling of the product.
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13.1 Waste treatment methods

Disposal methods	Dispose of waste and residues in accordance with local authority requirements, and in accordance with all local, national and international regulations. For waste disposal, use a
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licensed industrial waste disposal agent. For wastewater from processing, do not discharge into ground or drains without treatment.

Section 14: Transport information

14.1 UN number

UN no. (ADR)	Not applicable.
UN no. (IMDG)	Not applicable.
UN no. (IATA)	Not applicable.

14.2 UN proper shipping name

ADR proper shipping name	Not applicable.
IMDG proper shipping name	Not applicable.
IATA proper shipping name	Not applicable.

14.3 Transport hazard class(es)

ADR class	Not applicable.
IMDG class	Not applicable.
IATA class	Not applicable.

Transport labels	Not applicable
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14.4 Packing group

ADR/RID/ADN packing group	Not applicable.
IMDG packing group	Not applicable.
IATA packing group	Not applicable.

14.5 Environmental hazards

ADR	No
IMDG	No
IATA	No

14.6 Special precautions for user

EMS	Not applicable.
Emergency action code	Not applicable.
Hazard no. (ADR)	Not applicable.
Tunnel restriction code	Not applicable.

14.7 Transport in bulk according to annex II of MARPOL73/78 and the IBC code

Not applicable.

Section 15: Regulatory information

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

EU legislation	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 with amendments. The UN Globally Harmonized System (GHS) Safety Data Sheet format (Annex IV) is implemented as Annex II of REACH EU No 453/2010 of 20th May 2010 amending regulation (EC) No 1907/2006.
Approved code of practice	Workplace Exposure Limits Guidance Note EH40/2005.
Chemical safety assessment	No chemical safety assessment has been carried out.

Section 16: Other information

General information	This Safety Data Sheet is in accordance with Reach Regulation (EC) No 453/2010.
Revision comments	This is a first issue.
Revision date	23 January 2018
Revision	1
Safety data sheet status	Approved.

Hazard statements in full

H319	Causes serious eye irritation.
H304	May be fatal if swallowed and enters airways.
H413	May cause long lasting harmful effects to aquatic life.
H226	Flammable liquid and vapour.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H411	Toxic to aquatic life with long lasting effects.

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.