

Product 8060A
 Revision Date 12/10/2016
 Revision 1



Safety Data Sheet (SDS)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product Identifier

Product Name 8060A
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 No uses advised against are identified.

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 Flam. Liq 1- H224
 Human Health Acute Tox 4 - H302, STOT SE 3 - H335, Skin Irrit.2 - H315, Eye Irrit.2A - H319, Muta. 1B - H340, Carc. 1B - H350
 Environment Not classified

2.2 Label Elements

Contains propylene oxide 1,2-epoxypropane methyloxirane

Label in Accordance With (EC) No. 1272/2008



Signal Word Danger

Hazard Statements H224 Extremely flammable liquid and vapour.
 H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H335 May cause respiratory irritation.
 H340 May cause genetic defects .
 H350 May cause cancer .

Precautionary Statements **Prevention**

P202 Do not handle until all safety precautions have been read and understood.
 P210 Keep away from heat/ sparks/open flames/hot surfaces. — No smoking.
 P261 Avoid breathing dust/fume/ gas/mist/vapours/spray.
 P280 Wear protective gloves/ protective clothing/eye protection/face protection.
 P281 Use personal protective equipment as required.

Response

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P308 + P313 IF exposed or concerned: Get medical advice/ attention.
 P370 + P378 In case of fire: Use dry chemical, carbon dioxide, chemical foam and water for extinction.

Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

2.3 Other Hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable.

3.2 Mixtures

Name	Product Identifier	GHS Classification	%
propane-1,2-diol	CAS-No.: 57-55-6 EC No.: 200-338-0		30-60%
propylene oxide 1,2-epoxypropane methyloxirane	CAS-No.: 75-56-9 EC No.: 200-879-2	Flam. Liq 1 - H224, Acute Tox 4 - H302, Acute Tox 4 - H312, Skin Irrit.2 - H315, Eye Irrit.2A - H319, Acute Tox 4 - H332, STOT SE 3 - H335, Muta. 1B - H340, Carc. 1B - H350	30-60%

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.

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. 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. DO NOT induce vomiting!

Skin Contact

Remove affected person from source of contamination. Remove contaminated clothing. Wash skin thoroughly with mild 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.

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. Suspected of causing cancer.

Inhalation

Harmful if inhaled. Inhalation may cause respiratory irritation.

Ingestion

Harmful if swallowed. May cause digestive tract irritation, pain or vomiting.

Skin Contact

Harmful in contact with skin. Causes skin irritation.

Eye Contact

Causes serious eye irritation.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Notes to the Physician Treat symptomatically.

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, CO₂,) may be formed.
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.

5.3 Advice for Firefighters

Special Fire Fighting Procedures For initial fire, use dry chemical, carbon dioxide or dry sand. In case of a massive fire, use foam extinguisher.
If possible, fight fire from protected position. Ventilate closed spaces before entering them. Keep up-wind to avoid fumes.
Avoid breathing fire vapours. Containers close to fire should be removed immediately or cooled with water if safe to do so.
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 vapours and contact with skin and eyes. Provide adequate ventilation. In case of inadequate ventilation, use respiratory protection. Eliminate all sources of ignition. Wash hands after contact.
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.

6.3 Methods and Material for Containment and Cleaning Up

Spill Clean Up Methods DO NOT touch spilled material! Wear necessary protective equipment. Ventilate and evacuate the area. Eliminate all sources of ignition. Use non-sparking tools or equipment for clean up.
In case of a large scale of spill, dyke area with sand to stop the spill spreading. After recovery of spilled liquid, do not close container tightly - remove to a safe well ventilated area. Neutralize by dispersing neutralizing agent and absorb with sand.
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible. Wash work area with water. Wash thoroughly after dealing with a spillage.

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

Use proper personal protection when handling (refer to Section 8). Provide good ventilation. Wear appropriate respirator when ventilation is inadequate. Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Do not eat, drink or smoke when using the product. Avoid inhalation of vapours. Avoid contact with skin and eyes. Do not use contact lenses. Avoid prolonged or repeated contact. Read and follow manufacturer's recommendations. Do not mix with other chemicals. Pregnant women should not work with the product, if there is the least risk of exposure.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Storage Precautions

Keep locked up and out of reach of children. Keep away from heat, sparks, direct sunlight and open flames.

Store in tightly closed original container in a dry, cool and well-ventilated place. After opening containers, replace with dry nitrogen or dry air and tightly seal the container to prevent leaks. To avoid static electricity, ground equipment.

Storage Class

Flammable liquid 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

Component	STD	TWA (8 Hrs)		STEL (15mins)		Notes
propane-1,2-diol	WEL		10mg/m3			
propane-1,2-diol	WEL	150ppm	474mg/m3			
propylene oxide 1,2-epoxypropane methyloxirane	WEL	5ppm	12mg/m3			

Ingredient Comments

WEL - Workplace Exposure Limits - EH40/2005 Workplace exposure limits.

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. Facilities for handling this product should be closed system. Ensure surfaces and floors are made from non-permeable material. 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). ABEK (EN 14387). 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).

Respiratory Equipment

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. Use suitable organic solvent resistant gloves if there is a risk of skin contact. Suggested material: Use neoprene, butyl or nitrile rubber gloves to minimize skin contact. Consult manufacturer for specific advice. Use proper glove removal technique (without touching glove's outer surface) to avoid skin

Eye Protection	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	Select appropriate protective clothing based on chemical resistance data and an assessment of local exposure potential. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. The selected clothing must satisfy the European norm standard EN 943.
Hygiene Measures	Wash promptly if skin becomes contaminated. Handle in accordance with good industrial hygiene and safety practice. DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet.
Process Conditions	Use only according to directions. Keep container tightly sealed when not in use. Ensure that eye flushing systems 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	Light Yellow.
Odour	Weak.
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	No information available.
Flash Point	>135 °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	1.01g/cm ³ @ 20.00 °C
Bulk Density	No information available.
Solubility	Soluble in water. Soluble in organic solvents.
Decomposition Temperature	No information available.
Partition Coefficient; n-Octanol/Water	No information available.
Auto Ignition Temperature (°C)	No information available.
Viscosity	No information available.
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.
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10.2 Chemical Stability

Stability	Relatively stable when stored in a cool and dark place.
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10.3 Possibility of Hazardous Reactions

Hazardous Reactions	None under normal processing.
Hazardous Polymerisation	No information available.
Polymerisation Description	Unknown.

10.4 Conditions to Avoid

Conditions to Avoid	Fire and high temperature.
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10.5 Incompatible Materials

Materials to Avoid	Keep away from incompatibles such as oxidizing agents, acids, alkalis.
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10.6 Hazardous Decomposition Products

Hazardous Decomposition Products	When heated, vapours/gases hazardous to health may be formed. Combustion produces toxic gases such as carbon monoxide.
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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	Harmful if inhaled. Inhalation may cause respiratory irritation.
Ingestion	Harmful if swallowed. May cause digestive tract irritation, pain or vomiting.
Skin Contact	Harmful in contact with skin. Causes skin irritation.
Eye Contact	Causes serious eye irritation.
Waste Management	When handling waste, consideration should be made to the safety precautions applying to

handling of the product
 Curing in large quantities or under improper conditions may cause fire. Dispose of without curing and mixing with other materials. Do not discharge wastewater used for washing of container and equipment into ground or drain without treatment.

Routes of Entry
Target Organs
 No information available.
 Eyes, skin, digestive system, respiratory system.

Aspiration Hazards:
Reproductive Toxicity:
 No information available.
 No information available.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Acute Toxicity - Fish
Acute Toxicity - Aquatic Invertebrates
Acute Toxicity - Aquatic Plants
Acute Toxicity - Microorganisms
Chronic Toxicity - Fish
Chronic Toxicity - Aquatic Invertebrates
Chronic Toxicity - Aquatic Plants
Chronic Toxicity - Microorganisms
Ecotoxicity
Eco Toxilogical Information

No information available.
 No information available.
 No information available.
 No information available.
 No information available.
 No information available.
 No information available.
 No information available.
 No Ecological information on the finished product.
 Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

12.2 Persistence and Degradability

Degradability
Biological Oxygen Demand
Chemical Oxygen Demand

No information available.
 No information available.
 No information available.

12.3 Bioaccumulative Potential

Bioaccumulative Potential
Bioaccumulation Factor
Partition Coefficient; n-Octanol/Water

No data available on bioaccumulation.
 No information available.
 No information available.

12.4 Mobility in Soil

Mobility

No information available.

12.5 Results of PBT and vPvB Assessment

Results of PBT and vPvB Assessment

No information available.

12.6 Other Adverse Effects

Other Adverse Effects

No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste Management

When handling waste, consideration should be made to the safety precautions applying to handling of the product
 Curing in large quantities or under improper conditions may cause fire. Dispose of without curing and mixing with other materials. Do not discharge wastewater used for washing of container and equipment into ground or drain without treatment.

13.1 Waste Treatment Methods

Disposal Methods	Dispose of in accordance with national and local regulations for special waste via an appropriately licensed waste contractor.
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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	12/10/2016
Revision	1

Safety Data Sheet Status

Approved.

Hazard Statements In Full

H224	Extremely flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H340	May cause genetic defects [*].
H350	May cause cancer [*].

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.