

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

**1.1. Product identifier**

**Name of the substance** Propylene  
**Identification number** 601-011-00-9 (Index number)  
**Registration number** -  
**Synonyms** None.  
**SDS number** WC001  
**Product code** MAP-Pro™, PRO-Max™, MAPP  
**Issue date** 26-February-2017  
**Version number** 01  
**Revision date** -  
**Supersedes date** -

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

**Identified uses** Hand Torch Fuel  
**Uses advised against** None known.

**1.3. Details of the supplier of the safety data sheet**

**Manufacturer/Supplier** Rothenberger UK Limited  
**Address** 2 Kingsthorpe Park, Henson Way  
 Kettering, Northants, NN16 8PX  
**Contact person** Sales  
**E-mail address** info@rothenberger.co.uk  
**Telephone number** +44 (0) 1536 310 300 / Fax: +44 (0) 1536 310 600  
**Emergency telephone number** +44 (0) 1536 310 300 / Fax: +44 (0) 1536 310 600

**SECTION 2: Hazards identification**

**2.1. Classification of the substance or mixture**

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

**Classification according to Regulation (EC) No 1272/2008 as amended**

**Physical hazards**

Flammable gases (including chemically unstable gases)	Category 1	H220 - Extremely flammable gas.
Gases under pressure	Liquefied gas	H280 - Contains gas under pressure; may explode if heated.

**Hazard summary** Contents under pressure. Will be easily ignited by heat, spark or flames. Heat may cause the containers to explode. May displace oxygen and cause rapid suffocation.

**2.2. Label elements**

**Label according to Regulation (EC) No. 1272/2008 as amended**

**Hazard pictograms**



**Signal word** Danger

**Hazard statements**

H220 Extremely flammable gas.  
 H280 Contains gas under pressure; may explode if heated.

**Precautionary statements**

**Prevention**

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

**Response**

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 Eliminate all ignition sources if safe to do so.

**Storage**

P410 + P403 Protect from sunlight. Store in a well-ventilated place.

**Disposal**

Dispose of waste and residues in accordance with local authority requirements.

**Supplemental label information** None.

**2.3. Other hazards** May displace oxygen and cause rapid suffocation. Not a PBT or vPvB substance or mixture.

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

**General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Propylene	99.5 - 100	115-07-1 204-062-1	-	601-011-00-9	
<b>Classification:</b>	Flam. Gas 1;H220, Press. Gas;H280				U

**Impurities**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Propane	0 - 0.5	74-98-6 200-827-9	-	601-003-00-5	

**Composition comments** Gas concentrations are in percent by volume.  
The full text for all H-statements is displayed in section 16.

**SECTION 4: First aid measures**

**General information** If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

**4.1. Description of first aid measures**

**Inhalation** Remove from further exposure. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. If respiratory tract irritation, dizziness, nausea, or unconsciousness occurs, seek immediate medical assistance. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

**Skin contact** Not likely, due to the form of the product. If frostbite occurs, immerse affected area in warm water (not exceeding 105°F/41°C) for at least 15 minutes. Get medical attention immediately.

**Eye contact** Not likely, due to the form of the product. If frostbite occurs, immediately flush eyes with plenty of warm water (not exceeding 105°F/41°C) for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention promptly if symptoms persist or occur after washing.

**Ingestion** This material is a gas under normal atmospheric conditions and ingestion is unlikely.

**4.2. Most important symptoms and effects, both acute and delayed** Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. Symptoms may include loss of mobility/consciousness. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect himself.

**4.3. Indication of any immediate medical attention and special treatment needed** Exposure may aggravate pre-existing respiratory disorders. Provide general supportive measures and treat symptomatically.

**SECTION 5: Firefighting measures**

**General fire hazards** Extremely flammable gas. Contents under pressure. Pressurised container may explode when exposed to heat or flame.

**5.1. Extinguishing media**

**Suitable extinguishing media** Dry chemical powder. Carbon dioxide (CO2). Water fog. Foam.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**5.2. Special hazards arising from the substance or mixture** Extremely flammable gas. During fire, gases hazardous to health may be formed.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Special fire fighting procedures**

Do not extinguish fires unless gas flow can be stopped safely; explosive re-ignition may occur. Promptly isolate the scene by removing all persons from the vicinity of the incident. No action shall be taken involving any personal risk or without suitable training. For fires involving this material, do not enter any enclosed or confined fire space without proper protective equipment, including self-contained breathing apparatus. Stop flow of material. Use water to keep fire exposed containers cool and to protect personnel effecting shutoff. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect personnel attempting to stop leak. Prevent runoff from fire control or dilution from entering streams, sewers or drinking water supply.

**Specific methods**

Use standard firefighting procedures and consider the hazards of other involved materials. Cool containers with flooding quantities of water until well after fire is out.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Evacuate the area promptly. No action shall be taken involving any personal risk or without suitable training. In the event of a leak evacuate all personnel until ventilation can restore oxygen concentrations to safe levels. Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Wear appropriate personal protective equipment (See Section 8).

**For emergency responders**

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up.

**6.2. Environmental precautions**

Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

**6.3. Methods and material for containment and cleaning up**

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Stop leak if you can do so without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Isolate area until gas has dispersed.

**6.4. Reference to other sections**

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

**SECTION 7: Handling and storage****7.1. Precautions for safe handling**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. All equipment used when handling the product must be grounded. Do not breathe gas. Avoid prolonged exposure. Do not enter storage areas or confined spaces unless adequately ventilated. Use only outdoors or in a well-ventilated area. Oxygen concentration should not fall below 19.5 % at sea level (pO<sub>2</sub> = 135 mmHg). Mechanical ventilation or local exhaust ventilation may be required. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities**

Store at temperatures not exceeding 49°C/120°F. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Cylinders should be stored upright, with valve protection cap in place, and firmly secured to prevent falling or being knocked over. Protect cylinders from damage. Stored containers should be periodically checked for general condition and leakage. Store in original tightly closed container. Keep container tightly closed. Store in a well-ventilated place. Use care in handling/storage. Store away from incompatible materials (see section 10 of the SDS).

**7.3. Specific end use(s)**

Hand Torch Fuel.

**SECTION 8: Exposure controls/personal protection****8.1. Control parameters****Occupational exposure limits**

No exposure limits noted for ingredient(s).

**Biological limit values**

No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures**

Follow standard monitoring procedures.

**Derived no effect levels (DNELs)**

Not available.

**Predicted no effect concentrations (PNECs)**

Not available.

**Control banding approach**

No data available.

**8.2. Exposure controls****Appropriate engineering controls**

Provide adequate ventilation and minimize the risk of inhalation of gas. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

**Individual protection measures, such as personal protective equipment****General information**

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

<b>Eye/face protection</b>	Wear approved safety glasses or goggles.
<b>Skin protection</b>	
<b>- Hand protection</b>	Wear appropriate chemical resistant gloves. Nitrile, butyl rubber or neoprene gloves are recommended.
<b>- Other</b>	Wear protective clothing appropriate for the risk of exposure.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection.
<b>Thermal hazards</b>	Contact with liquefied gas might cause frostbites, in some cases with tissue damage. Wear appropriate thermal protective clothing, when necessary.
<b>Hygiene measures</b>	Do not eat, drink or smoke when using the product. Wash thoroughly after handling. Provide eyewash station and safety shower. Handle in accordance with good industrial hygiene and safety practices.
<b>Environmental exposure controls</b>	Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

<b>Physical state</b>	Gas.
<b>Form</b>	Compressed liquefied gas.
<b>Colour</b>	Colourless.
<b>Odour</b>	Hydrocarbon or mercaptan if odorized.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not applicable.
<b>Melting point/freezing point</b>	-185 °C (-301 °F)
<b>Initial boiling point and boiling range</b>	-48 °C (-54.4 °F)
<b>Boiling point pressure</b>	101.33 kPa
<b>Flash point</b>	-107.8 °C (-162.0 °F)
<b>Evaporation rate</b>	Not applicable.
<b>Flammability (solid, gas)</b>	Extremely flammable gas.

#### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	2 % v/v
<b>Flammability limit - upper (%)</b>	11 % v/v
<b>Vapour pressure</b>	109.73 PSIG
<b>Vapor pressure temp.</b>	21 °C (69.8 °F)
<b>Vapour density</b>	1.5 (Air=1)
<b>Vapor density temp.</b>	0 °C (32 °F) (gas)
<b>Relative density</b>	0.52 (liquid) ( H <sub>2</sub> O=1)
<b>Solubility(ies)</b>	384 mg/l - Slightly soluble in water.
<b>Partition coefficient (n-octanol/water)</b>	1.77
<b>Auto-ignition temperature</b>	497.22 °C (927 °F)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not explosive.
<b>Oxidising properties</b>	Not oxidising.

### 9.2. Other information

<b>Molecular weight</b>	42 g/mol
<b>Percent volatile</b>	100 %
<b>Surface tension</b>	16.7 mN/m (90 °C (194 °F))

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Incompatible materials.
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<b>10.2. Chemical stability</b>	Stable under normal temperature conditions and recommended use.
<b>10.3. Possibility of hazardous reactions</b>	Polymerization will not occur. May form explosive mixture with air. This product may react with oxidizing agents.
<b>10.4. Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
<b>10.5. Incompatible materials</b>	Strong oxidising agents. Strong acids. Halogens.
<b>10.6. Hazardous decomposition products</b>	Thermal decomposition of this product can generate carbon monoxide and carbon dioxide. Hydrocarbons.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

<b>Inhalation</b>	High concentrations: Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Breathing of high concentrations may cause dizziness, light-headedness, headache, nausea and loss of co-ordination. Continued inhalation may result in unconsciousness.
<b>Skin contact</b>	Contact with liquefied gas may cause frostbite.
<b>Eye contact</b>	Contact with liquefied gas may cause frostbite.
<b>Ingestion</b>	This material is a gas under normal atmospheric conditions and ingestion is unlikely.

**Symptoms** Exposure to rapidly expanding gas or vapourizing liquid may cause frostbite ("cold burn"). Very high exposure can cause suffocation from lack of oxygen. Victim may not be aware of asphyxiation. Asphyxiation may bring about unconsciousness without warning and so rapidly that victim may be unable to protect themselves.

### 11.1. Information on toxicological effects

**Acute toxicity** Not expected to be acutely toxic.

Components	Species	Test results
Propylene (CAS 115-07-1)		
<b>Acute</b>		
<b>Inhalation</b>		
<b>Gas</b>		
LC50	Rat	> 65000 ppm, 4 Hours
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met.	
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met.	
<b>Respiratory sensitisation</b>	Based on available data, the classification criteria are not met.	
<b>Skin sensitisation</b>	Based on available data, the classification criteria are not met.	
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met.	
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met.	

#### IARC Monographs. Overall Evaluation of Carcinogenicity

Propylene (CAS 115-07-1) 3 Not classifiable as to carcinogenicity to humans.

<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - single exposure</b>	Based on available data, the classification criteria are not met.
<b>Specific target organ toxicity - repeated exposure</b>	Based on available data, the classification criteria are not met.
<b>Aspiration hazard</b>	Not likely, due to the form of the product.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	Exposure over a long period of time may cause central nervous system effects.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	The product is not expected to be hazardous to the environment.
<b>12.2. Persistence and degradability</b>	The product is readily biodegradable.
<b>12.3. Bioaccumulative potential</b>	The product is not expected to bioaccumulate.

### Partition coefficient

#### n-octanol/water (log Kow)

Propylene (CAS 115-07-1)	1.77
Propane (CAS 74-98-6)	2.36

<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	Not relevant, due to the form of the product.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	The product contains volatile organic compounds which have a photochemical ozone creation potential.
<b>12.7. Additional information</b>	None.

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose in accordance with all applicable regulations.
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	16 05 04* The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Disposal methods/information</b>	Use the container until empty. Do not dispose of any non-empty container. Empty containers have residual vapor that is flammable and explosive. Cylinders should be emptied and returned to a hazardous waste collection point. Do not puncture or incinerate even when empty. Dispose in accordance with all applicable regulations.
<b>Special precautions</b>	Dispose of in accordance with local regulations.

### SECTION 14: Transport information

#### ADR

<b>14.1. UN number</b>	UN1077
<b>14.2. UN proper shipping name</b>	Propylene
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.1
<b>Hazard No. (ADR)</b>	23
<b>Tunnel restriction code</b>	B/D
<b>14.4. Packing group</b>	-
<b>14.5. Environmental hazards</b>	No
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### RID

<b>14.1. UN number</b>	UN1077
<b>14.2. UN proper shipping name</b>	Propylene
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.1 (+13)
<b>14.4. Packing group</b>	-
<b>14.5. Environmental hazards</b>	No
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### ADN

<b>14.1. UN number</b>	UN1077
<b>14.2. UN proper shipping name</b>	Propylene
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.1
<b>14.4. Packing group</b>	-
<b>14.5. Environmental hazards</b>	No
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IATA

<b>14.1. UN number</b>	UN1077
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<b>14.2. UN proper shipping name</b>	Propylene
<b>14.3. Transport hazard class(es)</b>	
Class	2.1
Subsidiary risk	-
Label(s)	2.1
<b>14.4. Packing group</b>	-
<b>14.5. Environmental hazards</b>	No
<b>ERG Code</b>	10L
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

#### IMDG

<b>14.1. UN number</b>	UN1077
<b>14.2. UN proper shipping name</b>	PROPYLENE
<b>14.3. Transport hazard class(es)</b>	
Class	2.1
Subsidiary risk	-
<b>14.4. Packing group</b>	-
<b>14.5. Environmental hazards</b>	
Marine pollutant	No
<b>EmS</b>	F-D, S-U
<b>14.6. Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code** Not established.

**General information** Avoid transport on vehicles where the load space is not separated from the driver's compartment. Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency. Before transporting product containers: Ensure that containers are firmly secured. Ensure cylinder valve is closed and not leaking. Ensure valve outlet cap nut or plug (where provided) is correctly fitted. Ensure valve protection device (where provided) is correctly fitted. Ensure adequate ventilation. Ensure compliance with applicable regulations.

## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Propylene (CAS 115-07-1)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### **Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Propane (CAS 74-98-6)

Propylene (CAS 115-07-1)

#### **Other regulations**

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

#### **National regulations**

Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended.

#### **15.2. Chemical safety assessment**

No Chemical Safety Assessment has been carried out.

### **SECTION 16: Other information**

#### **List of abbreviations**

PBT: Persistent, bioaccumulative and toxic.  
vPvB: Very Persistent and very Bioaccumulative.  
DNEL: Derived No-Effect Level.  
PNEC: Predicted No-Effect Concentration.  
STEL: Short term exposure limit.  
TWA: Time weighted average.  
PEL: Permissible Exposure Limit.  
LC50: Lethal Concentration, 50%.

#### **References**

HSDB® - Hazardous Substances Data Bank  
IARC Monographs. Overall Evaluation of Carcinogenicity  
National Toxicology Program (NTP) Report on Carcinogens  
ACGIH Documentation of the Threshold Limit Values and Biological Exposure Indices  
EPA: AQUIRE database  
NLM: Hazardous Substances Data Base

#### **Information on evaluation method leading to the classification of mixture**

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

#### **Full text of any H-statements not written out in full under Sections 2 to 15**

H220 Extremely flammable gas.  
H280 Contains gas under pressure; may explode if heated.

#### **Training information**

Follow training instructions when handling this material.

#### **Disclaimer**

All information in this Safety Data Sheet is believed to be accurate and reliable. However, no guarantee or warranty of any kind is made with regard to the accuracy of information or the suitability of the recommendations contained herein. It is the user's responsibility to assess the safety and toxicity of this product under their own conditions of use and to comply with all applicable laws and regulations.