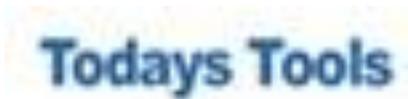


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TTM Map-Plus Gas

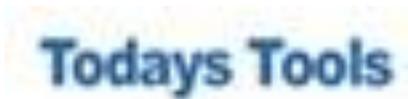
## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

<b>1.1 Product identifier</b>	
Trade name	Map-Plus Gas
Alternative names	Propene, Dimethyl Ether and Propane mixture
Product code	TTM
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>	
Identified Use(s)	For use with Professional type brazing and soldering torches.
Uses Advised Against	None known.
<b>1.3 Details of the supplier of the safety data sheet</b>	
Manufacturer	Today's Tools Ltd Units 57-63 Winpenny Road Parkhouse Ind Estate East Newcastle Under Lyme Staffordshire ST5 7RH United Kingdom
Telephone	+44 (0) 1782 566300
Fax	+44 (0) 1782 563560
E-Mail (competent person)	<a href="mailto:todaystools@btconnect.com">todaystools@btconnect.com</a>
<b>1.4 Emergency telephone number</b>	
Emergency Phone No.	+44 (0) 1782 566300 (9am – 5pm GMT)
Languages spoken	English

## SECTION 2: HAZARDS IDENTIFICATION

<b>2.1 Classification of the substance or mixture</b>	
<b>2.1.1 Regulation (EC) No. 1272/2008 (CLP)</b>	Flam. Gas 1; H220 Liquefied gas; H280
<b>2.1.2 Directive 67/548/EEC &amp; Directive 1999/45/EC</b>	F+; R12: Extremely flammable.
<b>2.2 Label elements</b>	
Product Name	According to Regulation (EC) No. 1272/2008 (CLP) Map-Plus Gas
Contains:	No substances to declare on the label.
Hazard Pictogram(s)	 
Signal Word(s)	DANGER
Hazard Statement(s)	H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.
Precautionary Statement(s)	P102: Keep out of reach of children. P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P251: Do not pierce or burn, even after use. P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. P381: Eliminate all ignition sources if safe to do so. P410+P403: Protect from sunlight. Store in a well-ventilated place. P412: Do not expose to temperatures exceeding 50°C/ 122°F.

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Supplemental information

Do not refill canisters

## 2.3 Other hazards

Vapour may create explosive atmosphere. Liquid leaks generate large volumes of flammable vapour. The vapour is heavier than air and spreads along ground. Danger of flashback.

Cold burns (frostbite) will result from skin/eye contact with liquid product  
An asphyxiant at high concentrations – oxygen depletion can be fatal.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances Not applicable - Substances in preparations / mixtures

## 3.2 Mixtures

EC Classification Regulation (EC) No. 1272/2008 (CLP)

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard Statement(s)
Propene	> 95%	115-07-1	204-062-1	Not yet assigned in the supply chain	Flam. Gas 1; H220
Dimethyl ether	> 95%	115-10-6	204-065-8	Not yet assigned in the supply chain	Flam. Gas 1; H220 Liquefied gas; H280
Propane	> 95%	74-98-6	200-827-9	Not yet assigned in the supply chain	Flam. Gas 1; H220 Liquefied gas; H280

Directive 67/548/EEC & Directive 1999/45/EC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	EC Classification and Risk Phrases
Propene	> 95%	115-07-1	204-062-1	Not yet assigned in the supply chain	F+; R12: Extremely flammable.
Dimethyl ether	> 95%	115-10-6	204-065-8	Not yet assigned in the supply chain	F+; R12: Extremely flammable.
Propane	> 95%	74-98-6	200-827-9	Not yet assigned in the supply chain	F+; R12: Extremely flammable.

## SECTION 4: FIRST AID MEASURES



### 4.1 Description of first aid measures

Self-protection of the first aid  
r

Inhalation

Skin Contact

Eye Contact

Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply. Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. Take care to self-protect by avoiding becoming contaminated – use approved positive pressure air supplied breathing apparatus with a full facepiece. Move contaminated patient(s) out of the dangerous area.

IF INHALED: If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Exposure to high concentrations may cause asphyxiation.

Contact with product in liquid form may cause frostbite. Do not remove clothing that adheres due to freezing. Immediately flush affected area with plenty of water – continue for at least 15 minutes. If there are signs of frostbite, (blanching or redness of skin or burning or tingling sensation), do not rub, massage or compress the affected area. Send the casualty immediately to hospital.

Contact with product in liquid form may cause frostbite. Remove any contact lenses. Flush eyes with water thoroughly and continuously for at least 15 minutes. Keep eye wide open while rinsing. If there are signs of frostbite, pain,

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Ingestion	swelling, lachrimation or photophobia persists, the patient should be seen in a specialist health care facility.
<b>4.2 Most important symptoms and effects, both acute and delayed</b>	Ingestion is not considered a likely route of exposure – frostbite to the lips and mouth may occur if in contact with the liquid.
<b>4.3 Indication of any immediate medical attention and special treatment needed</b>	Frostbite (cold burn).  A simple asphyxiant gas at normal temperatures and pressures – there is no specific antidote. In the event of contact with product in liquid form treat for frostbite.

## SECTION 5: FIREFIGHTING MEASURES

<b>5.1 Extinguishing media</b>	Where possible stop the flow of gas. If the flow cannot be stopped allow the fire to burn out, whilst cooling containers and surroundings with a water spray.
Suitable Extinguishing media	LARGE FIRE: Use water spray, water fog or foam.
Unsuitable extinguishing media	SMALL FIRE: Dry powder or carbon dioxide (CO <sub>2</sub> ) extinguisher, dry sand or fire fighting foam.  Do not use water jet. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
<b>5.2 Special hazards arising from the substance or mixture</b>	Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide and unburned hydrocarbons (smoke). The vapour is heavier than air and spreads along ground. Danger of flashback.
<b>5.3 Advice for fire-fighters</b>	Fight fire with normal precautions from a reasonable distance. Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Containers may explode when involved in a fire. Keep containers cool by spraying with water if exposed to fire. Prevent liquid entering sewers, basements and workpits; vapour may create explosive and toxic atmosphere.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

<b>6.1 Personal precautions, protective equipment and emergency procedures</b>	Eliminate sources of ignition. May form explosive mixture with air particularly in enclosed spaces. Avoid contact with skin and eyes. Ensure adequate ventilation. Ensure suitable personal protection during removal of spillages. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems.
<b>6.2 Environmental precautions</b>	Do not allow to enter drains, sewers or watercourses. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback.
<b>6.3 Methods and material for containment and cleaning up</b>	Shut off leaks if without risk. Allow to evaporate. Ensure adequate ventilation.
<b>6.4 Reference to other sections</b>	See Section: 8,13

## SECTION 7: HANDLING AND STORAGE

<b>7.1 Precautions for safe handling</b>	Store in a cool/low-temperature, well-ventilated (dry) place away from heat and ignition sources. Ensure adequate ventilation. Consider technical advances and process upgrades (including automation) for the elimination of releases. minimise exposure using measures such as closed systems, dedicated facilities and suitable general/local exhaust ventilation. Drain down systems and clear transfer lines prior to breaking containment. Clean/flush equipment, where possible, prior to maintenance. Where there is potential for exposure: restrict access to authorised persons; provide specific activity training to operators to minimise exposures; wear suitable gloves and coveralls to prevent skin contamination; wear respiratory protection when its use is identified for certain contributing scenario; clear up spills immediately and dispose of waste safely. Ensure safe systems of work or equivalent arrangements are in place to manage risks. Regularly inspect, test and maintain all control measures. Consider the need for risk based health surveillance. When using do not smoke, eat or drink.
<b>7.2 Conditions for safe storage, including any incompatibilities</b>	Do not pressurise, cut, weld, braze, solder, drill, or grind on containers. Keep only in the original container.

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Storage temperature	<50°C.
Storage life	Stable under normal conditions.
Incompatible materials	Oxidising agents, chlorine and hydrogen chloride or hydrogen fluoride.
7.3 Specific end use(s)	See Section: 2

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### 8.1.1 Occupational Exposure Limits

No specific WEL. Using the control banding approach, the Liquefied petroleum gas (LPG) WEL should be applied for Propene and Propane.

SUBSTANCE	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m <sup>3</sup> )	STEL (ppm)	STEL (mg/m <sup>3</sup> )	Note
Liquefied petroleum gas	68476-85-7	1000	1750	1250	2180	WEL
Dimethyl ether	115-10-6	400	766	500	958	WEL

Source: Workplace Exposure Limit (UK HSE EH40). Note Paragraphs 57 – 59 in relation to Asphyxiant gasses.

#### 8.1.2 Biological limit value

Not established.

#### 8.1.3 PNECs and DNELs

Not established.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

Ensure adequate ventilation. Atmospheric levels should be controlled in compliance with the occupational exposure limit. This can be achieved by local exhaust or general exhaust air collection.

#### 8.2.2 Individual protection measures, such as personal protective equipment (PPE)

Assumes a good basic standard of occupational hygiene is implemented. Avoid contact with skin and eyes.

Eye/ face protection

Wear eye protection with side protection (EN166).



Skin protection

Wear appropriate personal protective equipment, avoid direct contact.



Hand protection:

Heat: Wear insulating gloves EN407 (heat).

Liquid: Wear cold insulating gloves/face shield/eye protection.

Respiratory protection

Respiratory protection is not necessary if room is well ventilated. In case of inadequate ventilation wear respiratory protection.



Thermal hazards

Heat: Wear insulating gloves EN407 (heat).

Liquid: Wear cold insulating gloves/face shield/eye protection.

#### 8.2.3 Environmental Exposure Controls

Not applicable. The substance is a vapour at normal temperature and pressure. In normal use it is not discharged into the atmosphere but used as a fuel.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties (Substances in preparations / mixtures)

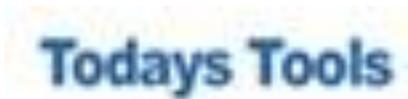
Appearance

Colourless Gas (liquid under pressure)

Odour

Ether-like

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Odour threshold	Not established.
pH	Not determined.
Melting point/freezing point	-185°C (Propene)
Initial boiling point and boiling range	-48°C (Propene)
Flash point	-108 Highly flammable mixture.
Evaporation rate	Study technically not feasible.
Flammability (solid, gas)	Not determined.
Upper/lower flammability or explosive limits	2 - 11 Vol% in air (Propene)
Vapour pressure	Study technically not feasible
Vapour density	1.5 at @ 15°C (Air = 1.0)
Relative density	0.49 g/cm <sup>3</sup> @ 25°C (Water = 1)
Solubility(ies)	200mg/L @ 25°C (Water)
Partition coefficient: n-octanol/water	Not determined.
Auto-ignition temperature	455°C (Propene)
Decomposition Temperature	Not determined.
Viscosity	Study technically not feasible.
Explosive properties	Can form explosive mixture with air.
Oxidising properties	Not oxidising.

9.2 Other information None

## SECTION 10: STABILITY AND REACTIVITY

10.1 Stability and reactivity	Highly flammable.
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Vapour is explosive in air at temperatures higher than the flash point. The vapour is heavier than air and spreads along ground. Danger of flashback.
10.4 Conditions to avoid	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
10.5 Incompatible materials	Oxidising agents, chlorine and hydrogen chloride or hydrogen fluoride.
10.6 Hazardous decomposition product(s)	Decomposes in a fire giving off toxic fumes: Carbon monoxide, Carbon dioxide and unburned hydrocarbons (smoke).

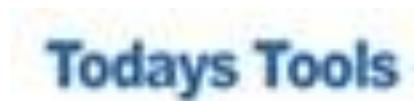
## SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects	
Acute toxicity	
Ingestion	Based upon the available data, the classification criteria are not met.
Inhalation	High atmospheric concentrations may lead to adverse effects on the central nervous system and anaesthetic effects, including drowsiness, giddiness, headache, nausea and unconsciousness. The gas has narcotic effect and causes giddiness.
Skin Contact	Based upon the available data, the classification criteria are not met.
Skin corrosion/irritation	Contact with liquid will cause cold burns and frostbite.
Serious eye damage/irritation	Contact with liquid will result in serious damage.
Respiratory or skin sensitization	Based upon the available data, the classification criteria are not met.
Germ cell mutagenicity	There is no evidence of mutagenic potential.
Carcinogenicity	No evidence of carcinogenicity.
Reproductive toxicity	No evidence of reproductive effects.
STOT - single exposure	Based upon the available data, the classification criteria are not met.
STOT - repeated exposure	Based upon the available data, the classification criteria are not met.
Aspiration hazard	Based upon the available data, the classification criteria are not met.
11.2 Other information	None.

## SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Not applicable as there is no release to wastewater.
12.2 Persistence and degradability	No data for the mixture as a whole.
12.3 Bioaccumulative potential	No data for the mixture as a whole.
12.4 Mobility in soil	Highly volatile. The product is predicted to have high mobility in soil.

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12.5 Results of PBT and vPvB assessment Not classified as PBT or vPvB.  
12.6 Other adverse effects None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods Disposal should be in accordance with local, state or national legislation. Prevent substance entering sewers. Vapours are heavier than air and may travel considerable distances to a source of ignition and flashback. Dispose of this material and its container as hazardous waste (2008/98/EEC).

## SECTION 14: TRANSPORT INFORMATION

	ADR/RID	IMDG	IATA/ICAO
14.1 UN number	UN 3161	UN 3161	UN 3161
14.2 Proper Shipping Name	LIQUEFIED GAS, FLAMMABLE, N.O.S. (Propene, Dimethyl Ether and Propane mixture)		
14.3 Transport hazard class(es)	2 (2F)	2 (2F)	2 (2F)
14.4 Packing group	None assigned.	None assigned.	None assigned.
14.5 Environmental hazards	Not classified	Not classified as a Marine Pollutant.	Not classified
14.6 Special precautions for user	See Section: 2		
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable		
14.8 Additional Information	Label elements: 2.1 Tunnel Code: 2 (B/D)	EmS: F-D, S-U	Forbidden on Passenger Aircraft.

## SECTION 15: REGULATORY INFORMATION

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

15.1.1 EU regulations  
Authorisations and/or Restrictions On Use None

15.1.2 National regulations None

15.2 Chemical Safety Assessment Not available.

## SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

### References:

Existing ECHA registration(s) for Propane (CAS No. 74-98-6), Dimethyl ether (CAS No. 115-10-6), Propene (CAS No. 115-07-1)

EU Classification: This Safety Data Sheet was prepared in accordance with EC Regulation (EC) 1907/2006 (REACH), 1272/2008 (CLP) & 453/2010.

Classification of the substance or mixture According to Regulation (EC) No. 1272/2008 (CLP)	Classification Procedure
Flam. Gas 1; H220 Liquefied gas; H280	Existing ECHA registration(s) for Propane, Propene and Dimethyl ether.

### LEGEND

LTEL Long Term Exposure Limit  
STEL Short Term Exposure Limit  
DNEL Derived No Effect Level  
PNEC Predicted No Effect Concentration  
PBT PBT: Persistent, Bioaccumulative and Toxic  
vPvB vPvT: very Persistent and very Toxic

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Training advice: Consideration should be given to the work procedures involved and the potential extent of exposure as they may determine whether a higher level of protection is required.

Further information regarding the use and storage of LPG can be obtained from UKLPG (email: mail@uklpg.org)

## Disclaimers

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## Annex to the extended Safety Data Sheet (eSDS)

Not available.