# SAFETY DATA SHEET

**Version:** 1.1  **Date:** 06.07.2014

**ACCORDING TO EC-REGULATIONS 1907/2006 (REACH), 1272/2008 (CLP) & 453/2010**

## TTM Map-Plus Gas

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

1.1 **Product identifier**

<table>
<thead>
<tr>
<th>Trade name</th>
<th>Map-Plus Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alternative names</td>
<td>Propene, Dimethyl Ether and Propane mixture</td>
</tr>
<tr>
<td>Product code</td>
<td>TTM</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Identified Use(s)</th>
<th>For use with Professional type brazing and soldering torches.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uses Advised Against</td>
<td>None known.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Todays Tools Ltd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address</td>
<td>Units 57-63 Wipenny Road, Parkhouse Ind Estate East, Newcastle Under Lyme, Staffordshire, ST5 7RH, United Kingdom</td>
</tr>
<tr>
<td>Telephone</td>
<td>+44 (0) 1782 566300</td>
</tr>
<tr>
<td>Fax</td>
<td>+44 (0) 1782 563560</td>
</tr>
<tr>
<td>E-Mail (competent person)</td>
<td><a href="mailto:todaytools@btconnect.com">todaytools@btconnect.com</a></td>
</tr>
</tbody>
</table>

1.4 **Emergency telephone number**

<table>
<thead>
<tr>
<th>Emergency Phone No.</th>
<th>+44 (0) 1782 566300 (9am – 5pm GMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Languages spoken</td>
<td>English</td>
</tr>
</tbody>
</table>

### SECTION 2: HAZARDS IDENTIFICATION

2.1 **Classification of the substance or mixture**


| Flam. Gas 1; H220 | Liquefied gas; H280 |


| F+; R12: Extremely flammable. |

2.2 **Label elements**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Map-Plus Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contains:</td>
<td>No substances to declare on the label.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hazard Pictogram(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Hazard Pictogram 1]</td>
</tr>
<tr>
<td>![Hazard Pictogram 2]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Signal Word(s)</th>
<th>DANGER</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hazard Statement(s)</th>
<th>H220: Extremely flammable gas. H280: Contains gas under pressure; may explode if heated.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Precautionary Statement(s)</th>
<th>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.</th>
</tr>
</thead>
</table>
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)

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


<table>
<thead>
<tr>
<th>Hazardous ingredient(s)</th>
<th>%W/W</th>
<th>CAS No.</th>
<th>EC No.</th>
<th>REACH Registration No.</th>
<th>EC Classification and Risk Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propene</td>
<td>&gt; 95%</td>
<td>115-07-1</td>
<td>204-062-1</td>
<td>Not yet assigned in the supply chain</td>
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</tr>
</tbody>
</table>

Section 4: First Aid Measures

4.1 Description of first aid measures

Self-protection of the first aider: 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.

Inhalation: 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.

Skin Contact: 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.

Eye Contact: 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,
Ingestion

Ingestion is not considered a likely route of exposure – frostbite to the lips and mouth may occur if in contact with the liquid.

4.2 Most important symptoms and effects, both acute and delayed

Frostbite (cold burn).

4.3 Indication of any immediate medical attention and special treatment needed

A simple asphyxiating gas at normal temperatures and pressures – there is no specific antidote. In the event of contact with the product in liquid form treat for frostbite.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

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.

LARGE FIRE: Use water spray, water fog or foam.

SMALL FIRE: Dry powder or carbon dioxide (CO2) extinguisher, dry sand or fire fighting foam.

Unsuitable extinguishing media

Do not use water jet. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.

5.2 Special hazards arising from the substance or mixture

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.

5.3 Advice for fire-fighters

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

6.1 Personal precautions, protective equipment and emergency procedures

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.

6.2 Environmental precautions

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.

6.3 Methods and material for containment and cleaning up

Shut off leaks if without risk. Allow to evaporate. Ensure adequate ventilation.

6.4 Reference to other sections

See Section: 8,13

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

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; clean 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.

7.2 Conditions for safe storage, including any incompatibilities

Do not pressurise, cut, weld, braze, solder, drill, or grind on containers. Keep only in the original container.
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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.

<table>
<thead>
<tr>
<th>SUBSTANCE</th>
<th>CAS No.</th>
<th>LTEL (8 hr TWA ppm)</th>
<th>LTEL (8 hr TWA mg/m³)</th>
<th>STEL (ppm)</th>
<th>STEL (mg/m³)</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquefied petroleum gas</td>
<td>68476-85-7</td>
<td>1000</td>
<td>1750</td>
<td>1250</td>
<td>2180</td>
<td></td>
</tr>
<tr>
<td>Dimethyl ether</td>
<td>115-10-6</td>
<td>400</td>
<td>766</td>
<td>500</td>
<td>958</td>
<td>WEL</td>
</tr>
</tbody>
</table>


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.

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)

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colourless Gas (liquid under pressure)</td>
</tr>
<tr>
<td>Odour</td>
<td>Ether-like</td>
</tr>
</tbody>
</table>

Page: 4 of 7
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/cm³ @ 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.

**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 degradibility

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.
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

14.1 UN number
UN 3161
ADR/RID

14.2 Proper Shipping Name
LIQUEFIED GAS, FLAMMABLE, N.O.S. (Propene, Dimethyl Ether and Propane mixture)
IMDG
UN 3161
IATA/ICAO
UN 3161

14.3 Transport hazard class(es)
2 (2F)
ADR/RID
2 (2F)
IMDG
2 (2F)
IATA/ICAO

14.4 Packing group
None assigned.
ADR/RID
None assigned.
IMDG
None assigned.
IATA/ICAO

14.5 Environmental hazards
Not classified
ADR/RID
Not classified as a Marine Pollutant.
IMDG
IATA/ICAO

14.6 Special precautions for user
See Section: 2
ADR/RID

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable
ADR/RID
Not applicable
IMDG
Not applicable
IATA/ICAO

14.8 Additional Information
Label elements: 2.1
ADR/RID
Tunnel Code: 2 (B/D)
IMDG
EmS: F-D, S-U
IATA/ICAO
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.

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

LEGEND

LTET 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
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)

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**Annex to the extended Safety Data Sheet (e SDS)**

Not available.