SAFETY DATA SHEET

MARTIN EFFECT FLUIDS

1. Identification of the Substance/Mixture & of the Company/Undertaking

1.1. Product Identifier:

Name:

- JEM Pro-Fog Fluid, Extra Quick Dissipating
- JEM Pro-Fog Fluid, Quick Dissipating
- JEM Pro-Fog Fluid
- JEM Pro-Fog Fluid, High Density
- JEM Low-Fog Fluid, Quick Dissipating
- JEM Low-Fog Fluid
- JEM Low-Fog Fluid, High Density
- JEM K1 Haze Fluid
- JEM C-Plus Haze Fluid
- RUSH Club Smoke Dual Fluid
- RUSH & THRILL Fog Fluid
- RUSH & THRILL Haze Fluid
- Martin Pro-Clean and Storage Fluid
- Pro Steam (Extra Fast) HP

Discontinued Effect Fluid Types covered by this SDS:
- Pro Smoke Super Fluid (ZR), (Freshly Fragranced)
- Pro Smoke Studio Fluid (DX)
- Pro Smoke High Density Fluid (SP)
- Pro Steam Simulation Fluid
- i-Fog Fluid
- Heavy Fog Fluid (A1)
- Heavy Fog Fluid (B2)
- Heavy Fog Fluid (C3)
- RUSH Fog Fluid
- RUSH Haze Fluid
- Pro Clean Supreme Fluid
- Regular DJ Fluid (DJ)
- Pro Haze Fluid, (Freshly Fragranced)
- RUSH ELX Smoke Fluid
- RUSH ELX Haze Fluid

For the most up to date version of this document, please scan this QR Code or visit:

SAFETY DATA SHEET
MARTIN EFFECT FLUIDS

1.2. Relevant Identified Uses Of The Substance Or Mixture And Uses Advised Against:
Fluid mixture for use in the creation of atmospheric fog or haze effects using a
dedicated Martin brand atmospheric effect machine.

1.3. Details of the Supplier of the Safety Data Sheet:
Martin Manufacturing (UK) Ltd
Belvoir Way,
Fairfield Industrial Estate,
Louth,
Lincolnshire,
LN11 0LQ
UK
Tel: +44 (0) 1507 604399
Fax: +44 (0) 1507 601956
Email: jem-service@harman.com

1.4. Emergency Telephone Number and contact:
+44 1707 668110 (24-hour)
martintechnicalsupport@harman.com

2. Hazards Identification:
2.1. Classification of the Substance or Mixture:
This substance does not meet the criteria for classification in accordance with
No risk or safety phrases stipulated.

2.2. Label Elements:
Label Name: JEM Pro-Fog Fluid, Extra Quick Dissipating
JEM Pro-Fog Fluid, Quick Dissipating
JEM Pro-Fog Fluid
JEM Pro-Fog Fluid, High Density
JEM Low-Fog Fluid, Quick Dissipating
JEM Low-Fog Fluid
JEM Low-Fog Fluid, High Density
JEM K1 Haze Fluid
JEM C-Plus Haze Fluid
RUSH Club Smoke Dual Fluid
RUSH & THRILL Fog Fluid
RUSH & THRILL Haze Fluid
Martin Pro-Clean and Storage Fluid
Pro Steam (Extra Fast) HP
Discontinued Fluid Types covered by this SDS:
Pro Smoke Super Fluid (ZR), (Freshly Fragranced)
Pro Smoke Studio Fluid (DX)
Pro Smoke High Density Fluid (SP)
Pro Steam Simulation Fluid
i-Fog Fluid
Heavy Fog Fluid (A1)
Heavy Fog Fluid (B2)
Heavy Fog Fluid (C3)
RUSH Fog Fluid
RUSH Haze Fluid
Pro Clean Supreme Fluid
Regular DJ Fluid (DJ)
Pro Haze Fluid
RUSH ELX Smoke Fluid
RUSH ELX Haze Fluid

No other elements are needed in accordance with Article 25 and Article 32(6) of Regulation (EC) No 1272/2008.

2.3. **Other Hazards:**
This mixture is for the production of synthetic atmospheric effects in an approved Martin brand effect machine only.

<table>
<thead>
<tr>
<th>Ingestion</th>
<th>Very low toxicity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eye/skin</td>
<td>Very low toxicity</td>
</tr>
<tr>
<td>Inhalation</td>
<td>Low concentration of hazardous substances in vapour. Undiluted vapour should not be inhaled. (Note: The concentration of smoke components in the final product is below the OES under normal operating conditions)</td>
</tr>
</tbody>
</table>

3. **Composition/Information on Ingredients**

3.1. **Substances:**
Food/High Grade glycols:
Monopropylene Glycol: CAS Registry Number: 57-55-6
Triethylene Glycol: CAS Registry Number: 112-27-6

De-mineralised water.

Contains no substances stated in the Globally Harmonised System of Classification and Labelling of Chemicals.
Contains monopropylene glycol, for which a community workplace exposure limit has been set.

3.2. Mixtures:
The largest single component of this product is de-mineralised water.
Other ingredients: 5% - 40%

4. First Aid Measures
4.1. Description of First Aid Measures:

<table>
<thead>
<tr>
<th>Exposure Route</th>
<th>Symptom</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation</td>
<td>Mild irritation of nose &amp; throat</td>
<td>Remove from exposure, rest and keep warm. In severe cases, or if recovery is not rapid or complete, seek medical attention</td>
</tr>
<tr>
<td>Skin Contact</td>
<td>Mild irritation</td>
<td>Drench the skin with plenty of water. Remove contaminated clothing and wash before re-use. If large areas of the skin are damaged or if irritation persists seek medical attention</td>
</tr>
<tr>
<td>Eye Contact</td>
<td>Mild irritation</td>
<td>Irrigate thoroughly with water for at least 10-minutes. Obtain medical attention</td>
</tr>
<tr>
<td>Ingestion</td>
<td>Mild irritation of gastro-intestinal tract</td>
<td>Wash out mouth with water. Do not induce vomiting. If patient is conscious, give water to drink. If patient feels unwell seek medical attention</td>
</tr>
</tbody>
</table>

4.2. Most Important Symptoms and Effects, Both Acute and Delayed:
Mild irritation of nose & throat
Remove from exposure, rest and keep warm.
In severe cases, or if recovery is not rapid or complete, seek medical attention.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed:
None stated.

5. Fire Fighting Measures
5.1. Extinguishing Media:
Suitable Extinguishers:
Alcohol-resistant or all-purpose-type foam.
Use carbon dioxide or dry powder for small fires only.

Unsuitable Extinguishers:
Do not direct a solid stream of water or foam into hot burning pools; as this may cause frothing and increase the intensity of a fire.
5.2. Special Hazards Arising From the Substance or Mixture:
Hazardous Combustion Product
Oxides of carbon including aldehydes.

5.3. Advice for Firefighters:
Special equipment for firefighting:
Self-contained breathing apparatus.

6. Accidental Release Measures
6.1. Personal Precautions, Protective Equipment and Emergency Procedures:
Wear appropriate PPE when handling - see section 8.2.

6.2. Environmental Precautions:
Prevent entry into drains and water courses.

6.3. Methods and Material for Containment and Cleaning Up:
Cover drains to prevent entry into water courses.
Bund or absorb material with sand, earth or other suitable absorbent material.
If possible, transfer to a salvage tank, otherwise absorb residues and place in
suitable labelled containers and hold for waste disposal.

6.4. Reference to Other Sections:
See section 13 for disposal procedures.

7. Handling and Storage
7.1. Precautions for Safe Handling:
Avoid prolonged skin contact.
Avoid contact with eyes.
Avoid spills.
Ensure good general ventilation of area.
Avoid creating spray.
Do not breathe undiluted vapour.

7.2. Conditions for Safe Storage, Including Any Incompatibilities:
Store in original closed containers.
Store at ambient temperature.
Store away from materials listed in section 10.

7.3. Specific End Use(s):
Only for use in a designated effect machine for the production of fog or haze as a
special effect.
8. Exposure Controls/Personal Protection

8.1. Control Parameters:

8.1.3. Exposure Limit Values

Does not exceed 10 mg/m³ for particulate suspension and 474 mg/m³ for total vapour plus particulates.

OES for monopropylene glycol set at 150 ppm (total vapour and particulates) for 8-hour TWA, and 10 mg/m³ (particulates) for 15-minute STEL.

Norway - Substance with CAS number 57-55-6 has Norwegian exposure limits of: 25 ppm and 79 mg/m³

8.2. Exposure Controls:

Recommended PPE:

<table>
<thead>
<tr>
<th>Respiratory</th>
<th>None needed under normal handling conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand</td>
<td>None needed under normal handling conditions</td>
</tr>
<tr>
<td>Eye</td>
<td>None needed under normal handling conditions</td>
</tr>
<tr>
<td>Skin</td>
<td>Overalls and boots</td>
</tr>
<tr>
<td>Hygiene</td>
<td>Always wash thoroughly after handling chemicals</td>
</tr>
</tbody>
</table>

9. Physical and Chemical Properties

9.1. Information on Basic Physical and Chemical Properties:

Appearance: Colourless liquid
Odour: Mild
Odour threshold: No data available to us
pH: Neutral
Melting point/range: < -20° C (-4° F)
Boiling point/range: 101.6 - 201.6° C (214.8 - 394.8° F)
Flash point: > 103° C (217.4° F)
Test flame extinguished at 103° C (217.4° F)
Evaporation rate: 0.003
Flammability: No data available to us
Flammability limits: 2.9 - 18.1 v/v (estimated)
Vapour pressure: 2.67 kPa at 20° C (68° F)
Vapour density: 3.9
Relative density: 1.050 at 20° C/20° C (1.050 at 68° F/68° F)
Solubility: Completely miscible in water
Partition coefficient: n-octanol/water: No data available to us
Auto-ignition temperature: No data available to us
Decomposition temperature: No data available to us
Viscosity: No data available to us
Explosive properties: No data available to us
Oxidising properties: No data available to us

Revision No.: L Date: 14/05/2018
Replaces SDS No.: 111K Date: 28/04/2016

SDS No. 111 L Date: May 2018 Sheet 6 of 10
9.2. Other Information:
No data available to us.

10. Stability and Reactivity
10.1. Reactivity:
No data available to us.

10.2. Chemical Stability:
Stable in normal conditions.

10.3. Possibility of Hazardous Reactions:
Possibility of explosive decomposition if combined with strong acids or bases at elevated temperatures.

10.4. Conditions to Avoid:
Elevated temperatures.

10.5. Incompatible Materials:
Strong acids and bases; strong oxidisers.

10.6. Hazardous decomposition products:
Oxides of carbon, including aldehydes.

11. Toxicological Information
11.1. Information on Toxicological Effects:
LD50 for monopropylene glycol:
21000 - 33700 mg/kg oral - rat, >10000 mg/kg skin - rabbit.

May cause slight irritation to skin, eyes and mucous membranes.
Large doses may produce adverse effects on liver, kidneys and central nervous system.
No evidence in developmental toxicity studies for either embryotoxic or teratogenic effects.

12. Ecological Information
12.1. Toxicity:
Short and long-term effects
LC50, fathead minnow = 4600 - 54900 mg/l
EC50, Daphnia magna = 4850 - 34400 mg/l
12.2. **Persistence and Degradability:**
The preparation is largely biodegradable:
\[ \text{BOD}_5 = 1.08 \text{ gO}_2/\text{g}; \text{ThOD} = 1.68 \text{ gO}_2/\text{g}; \text{COD} = 1.63 \text{ gO}_2/\text{g} \]
\[ \text{BOD}_{20}/\text{ThOD} = 86\% \]

12.3. **Bioaccumulative Potential:**
Low.

12.4. **Mobility in Soil:**
Liquid with low volatility, soluble in water, predicted to have high mobility in soil.

12.5. **Results Of PBT And vPvB Assessment:**
No data available to us.

12.6. **Other Adverse Effects:**
None known

13. **Disposal Considerations**

13.1. **Waste Treatment Methods:**
a. Substance:
   Via an authorised waste disposal contractor to an approved waste disposal site, observing all local and national regulations.

b. Container:
   As for substance. Used containers must not be cut up or punctured until completely purged of product residues.

14. **Transport Information**
No special precautions for transport

14.1. **UN Number:**
Not Regulated.

14.2. **UN Proper Shipping Name:**
Not Regulated.

14.3. **Transport Hazard Class:**
Not Regulated.

14.4. **Packing Group:**
Not Regulated.

14.5. **Environmental Hazards:**
Not Regulated.
14.6. **Special Precautions for User:**
Not Regulated.

14.7. **Transport in Bulk According To Annex II of MARPOL73/78 and the IBC Code:**
Not Regulated.

IATA  Not Regulated – Goods are not dangerous, hazardous or restricted for transport by the International Air Transport Association

15. **Regulatory Information**

15.1. **Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:**
Symbol: No risk or safety phrases stipulated
Risk phrases: No risk or safety phrases stipulated
Safety phrases: No risk or safety phrases stipulated
E.E.C. Number: No risk or safety phrases stipulated

Use of this material may be governed by the following regulations:
EU Regulation 453/2010
Users are advised to consult these regulations for further information.

15.2. **Chemical Safety Assessment:**
No data available to us.

16. **Other Information**
The information contained in this data sheet does not constitute an assessment of workplace risk as required by other health and safety legislation.
No special training is required for handling this preparation other than normal precautions for safe handling of chemicals.
This material is usually used for the production of synthetic atmospheric effects such as fog or haze in an approved Martin brand effect machines.
The concentration of fog components is below the OES under normal operating conditions.
It must not be used for any other purpose, or in any other equipment.
Further details may be available on request from the supplier, whose address, telephone number and email address are provided in section 1.
Sources of information:

1. Suppliers’ Safety Data Sheets for substances used as raw materials in the preparation.
4. Regulation (EC) No 1272/2008 - CLP Regulation
5. GB 13690-2009 National Standard of the People’s Republic of China
6. NFPA 325M Guide to fire hazard properties of flammable liquids, gases, and volatile solids
7. Globally Harmonized System of Classification and Labelling of Chemicals – GHS

Legal Disclaimer:

Although we always attempt to make our information as accurate, current, and complete as possible, the information herein is provided “as is” without any express or implied warranty of any kind. As such we disclaim liability for any inaccuracy, non-currency or incompleteness of any individual item herein and the inability to fulfil any purpose contemplated. We disclaim liability for any injury, damage, direct or indirect loss, consequential or economic loss or any other loss occasioned by any use of, the product not in conformity with the instructions herein.

If you have purchased the product for supply to a third party, it is your duty to take all necessary steps to ensure that any person handling and using the product is provided with the information in this sheet. If you are an employer it is your duty to tell your employees and others who may be affected by any hazard described in this sheet and of any precautions that should be taken. We disclaim liability for any injury, damage, direct or indirect loss, consequential or economic loss or any other loss occasioned by you by any non-compliance with this instruction.

Any further information needed please contact: e-mail: jem-service@harman.com