SAFETY DATA SHEET
CHLOROFORM SPIRIT

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY:

PRODUCT NAME: CHLOROFORM SPIRIT
PART No.: M051
SUPPLIER: J M Loveridge plc
Southbrook Road, Southampton
Hampshire
SO15 1BH
Tel: 023 8022 2008
Fax: 023 8022 2117

2. COMPOSITION/INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS No.:</th>
<th>EINECS Nr.:</th>
<th>CLASSIFICATION</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRICHLOROMETHANE</td>
<td>67-66-3</td>
<td>200-663-8</td>
<td>Xn R-22, 38, 40, 48/20/22 Carc3</td>
<td>5-10 %</td>
</tr>
<tr>
<td>ETHANOL</td>
<td>64-17-5</td>
<td>200-578-6</td>
<td>F R-11</td>
<td>60-100 %</td>
</tr>
</tbody>
</table>

The Full Text for all R-Phrases are Displayed in Section 16

3. HAZARDS IDENTIFICATION:

Highly flammable. Harmful if swallowed. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed. Limited evidence of a carcinogenic effect. Carcinogen Category 3.

4. FIRST AID MEASURES:

GENERAL: IN ALL CASES OF DOUBT OR WHEN SYMPTOMS PERSIST, ALWAYS SEEK MEDICAL ATTENTION

INHALATION: Move affected person from exposure. If breathing stops, provide artificial respiration. Keep affected person warm and at rest. If recovery not rapid or complete seek medical attention.

INGESTION: DO NOT INDUCE VOMITING. In case of spontaneous vomiting, be sure that vomit can freely drain because of danger of suffocation. Only when conscious rinse mouth out. Keep patient at rest and obtain medical attention.
SKIN: Remove contaminated clothing. Wash affected area with plenty of soap and water. If symptoms occur or persist, obtain medical attention. Launder clothing before re-use.

EYES: Rinse immediately with plenty of water for at least 5 minutes while lifting the eye lids. Seek medical attention. Continue to rinse.

5. FIRE FIGHTING MEASURES:

EXTINGUISHING MEDIA: Water spray, fog or mist, carbon dioxide (CO2), alcohol resistant foam, dry chemicals, sand, dolomite etc.

SPECIAL FIRE FIGHTING PROCEDURES: Take measures to retain water used for extinguishing. Do not release contaminated water into drains, soil and surface water. Dispose of contaminated water and soil according to local regulations.

UNUSUAL FIRE & EXPLOSION HAZARDS: Vapour may travel considerable distance to source of ignition and flash back. May explode when heated or when exposed to flames or sparks.

HAZARDOUS COMBUSTION PRODUCTS: Thermal decomposition may release noxious, corrosive or toxic vapours. - hydrogen chloride and phosgene vapour.

PROTECTIVE MEASURES IN FIRE: Fire fighters should wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES:

PERSONAL PRECAUTION IN SPILL: Wear appropriate protective clothing. Do not breathe vapour or fumes. Ventilate area to dispel residual vapour or fumes.

PRECAUTIONS TO PROTECT ENVIRONMENT: Prevent contamination of soil, drains and surface water.

SPILL CLEANUP METHODS: Take-up spillage with absorbent, inert material and place in a suitable and closable labelled container for recovery or disposal. Wash the area clean with water and detergent, observing environmental requirements.

7. HANDLING AND STORAGE:

USAGE PRECAUTIONS: HANDLING - Product should be used in accordance with good industrial principles for handling and storing of hazardous chemicals. Ensure good ventilation and local exhaust extraction in work place. (engineering controls must be to explosion/flameproof standard). Spillages will create a fire hazard. Avoid vapour formation and ignition sources. Avoid vapour inhalation, skin and eye contact.

Earth container and transfer equipment to eliminate accumulation of static charge.

STORAGE PRECAUTIONS: Flammable/combustible - Keep away from oxidising agents, heat and flames. Avoid direct sunlight. Store in a cool, dry, well ventilated place, in securely closed original container. May attack some plastics, rubber and coatings.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION:

INGREDIENT NAME: CAS No.: STD LT EXP 8 Hrs ST EXP 15 Min
ETHANOL 64-17-5 OES 1000 ppm No std.
TRICHLOROMETHANE 67-66-3 OES 2 ppm(Sk)

INGREDIENT COMMENTS: Sk - can be absorbed by skin contact. Exposure limits for trichloromethane listed in
VENTILATION: Provide sufficient ventilation during operations which cause vapour formation. Work in a fume cupboard or use local exhaust ventilation.

RESPIRATORS: For short periods of work, a suitable RPE fitted with a combination A1 filter is recommended.

PROTECTIVE GLOVES: Use impervious gloves made of polyvinyl alcohol (PVA) or PTFE (teflon). Non-recommended materials: PVC, rubber.

EYE PROTECTION: Approved chemical safety goggles or face protection.

OTHER PROTECTION: Wear protective clothing and closed footwear. Wear personal protective equipment appropriate to the quantity of material handled. Use engineering controls to reduce air contamination to permissible exposure level. Engineering controls should be to explosion/flameproof standard.

HYGIENIC WORK PRACTICES: SKIN PROTECTION - use appropriate barrier cream to prevent defatting and cracking of skin.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE: Colourless mobile liquid.

ODOUR/TASTE: Chloroform odour.

DENSITY/SPECIFIC GRAVITY (g/ml): ~ 0.85 - 0.86 Temperature (°C): 20

VOLATILITY DESCRIPTION: Volatile.

SOLUBILITY DESCRIPTION: Miscible with water and ethanol.

FLASH POINT (°C): 19 Method:

10. STABILITY AND REACTIVITY:

STABILITY: Stable under normal conditions of use.

CONDITIONS TO AVOID: Avoid heat, flames and other sources of ignition. Avoid accumulation of static electricity.

MATERIALS TO AVOID: Oxidising agents. Sulphuric acid. Nitric acid.

HAZARDOUS DECOMP. PRODUCTS: Thermal decomposition may release noxious, toxic or corrosive gases or vapours. - possibly phosgene and hydrogen chloride.

11. TOXICOLOGICAL INFORMATION:

Toxicological data: Acute toxicity. LD50. Oral. Rat. 908 mg/kg (chloroform)

HEALTH HAZARDS, GENERAL: Intoxicating if inhaled or ingested. Risk of kidney and liver damage through inhalation.

INHALATION: Vapour has anaesthetic properties, causing drowsiness, intoxication, nausea, vomiting, unconsciousness.

INGESTION: May cause nausea, vomiting, dizziness and depression of CNS. May cause liver and/or renal damage.

EYES: Irritating to eyes.

HEALTH WARNINGS: On (prolonged) contact may cause mild drying (and/or cracking) of skin and eye irritation.
OTHER HEALTH EFFECTS: Has been found to cause cancer in laboratory animals. Target organs liver/kidney. Fœtotoxic and fertility effects. - (applicable to chloroform component of the preparation).

12. ECOLOGICAL INFORMATION:

ECOLOGICAL INFORMATION: No specific information available, but material is expected to have adverse effect on the environment.

13. DISPOSAL CONSIDERATIONS:

DISPOSAL METHODS: This material and/or its container must be disposed of as hazardous waste according to Special Waste Regulations 1996 or according to local regulations, in compliance with Duty of Care Regulations and Special Waste Regulations.

WASTE CLASS: WASTE CODE: 0705** HAZARDOUS PROPERTY: H5, H14, H3-A.

14. TRANSPORT INFORMATION:

UN No. ROAD: 1993
ADR CLASS No.: 3
ADR CLASS: Class 3: Flammable liquids.
ADR ITEM No.: 31°(b)
HAZARD No. (ADR): 33 Highly flammable liquid (flash-point below 23°C).
ADR MARGINAL: 2301
HAZCHEM CODE: 3YE
PROPER SHIPPING NAME I: FLAMMABLE LIQUID, NOS
PROPER SHIPPING NAME II: Technical name - (contains ethanol).
ROAD TRANSPORT NOTES: Flash point: 19°C.
UN No. SEA: UN 1993
IMDG CLASS: 3.2
IMDG PAGE No.: 3230
IMDG PACK GR.: II
UN No., AIR: UN-ID 1993
ICAO CLASS: 3
AIR PACK GR.: II
15. REGULATORY INFORMATION:

LABEL FOR SUPPLY:

![Harmful and Highly Flammable Icons]

RISK PHRASES:
- R-11 Highly flammable.
- R-22 Harmful if swallowed.
- R-40 Limited evidence of a carcinogenic effect.
- R-48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.

SAFETY PHRASES:
- P-10 For use in industrial installations only.
- S-16 Keep away from sources of ignition - No Smoking.
- S-36/37 Wear suitable protective clothing and gloves.
- S-46 If swallowed seek medical advice immediately and show this container label.
- S-51 Use only in well ventilated areas.

UK REGULATORY REFERENCES:
- Classification, Packaging and Labelling Regulations 1984.
- Regulatory requirement mandates selection of P10 phrase.

16. OTHER INFORMATION:

INFORMATION SOURCES:
This product has been classified in accordance with CHIP3 regulations.

REVISION COMMENTS:
Edition 01; Revised item(s):

ISSUED BY:
MK

SDS No.:
M033

DATE:
12/07/02

DISCLAIMER:
The foregoing data has been compiled for safety information only and does not form part of any selling specification. Information contained in this Data Sheet is to the best of JML's knowledge correct at the time of publication. Customers should always satisfy themselves, that the product which they have selected is entirely suitable for their purpose under their conditions of use and in compliance with current regulations. For any further information, please contact the supplier.

R-PHRASES (Full Text):
- R-11 Highly flammable.
- R-22 Harmful if swallowed.
- R-38 Irritating to skin.
- R-40 Limited evidence of a carcinogenic effect.
- R-48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.