1. IDENTIFICATION OF SUBSTANCE AND COMPANY DETAILS

1.1 Product Identifier

Product name: Morpheus® III/ Morpheus® III HT-96
Product number: MD1-116/MD1-117
EC No.: See section 3
REACH registration No.: See section 3
CAS No.: See section 3

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

Identified uses: Research and development
Uses advised against: Not for drug, household or uses other than those identified

1.3 Details of the supplier of the Safety Datasheet

Supplier: Molecular Dimensions Limited
Address: Unit 6 Goodwin Park
Willie Snaith Road
Newmarket
Suffolk
CB8 7SQ
United Kingdom

Telephone: +44 (0)1638 561051
Fax: +44 (0)1638 660674
Email address: enquiries@moleculardimensions.com

1.4 Emergency telephone number

Emergency number: 999
Emergency phone number: 999

2. HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

H302 Harmful if swallowed
H315 Causes skin irritation
H318 Causes serious eye irritation
H314 Causes severe skin burns and eye damage
H360D May damage the unborn child
H335 May cause respiratory irritation
H360 May damage fertility or the unborn child
H351 Suspected of causing cancer
H361 One or more of the CLP statements could not be found.
P280 Wear protective gloves/protective clothing/eye protection/face protection
P305+P351+P338+P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician
H317 May cause an allergic skin reaction
H411 Toxic to aquatic life with long-lasting effects
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361d May damage fertility. Suspected of damaging the unborn child
H316 Causes mild skin irritation
H301 Toxic if swallowed
H312 Harmful in contact with skin
H332 Harmful if inhaled

2.2 Label elements

Labelling according to Regulation (EC) No. 1277/2008 [CLP]
Pictogram(s):

Hazard statement(s):
See section 2.1.

Precautionary statement(s):
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P201 Obtain special instructions before use
P280 Wear protective gloves/protective clothing/eye protection/face protection
P310 Immediately call a POISON CENTER or doctor/physician
P261 Avoid breathing dust/fume/gas/mist/vapours/spray
P308+P313 IF EXPOSED OR CONCEALED: Get medical advice/attention
P281 Use personal protective equipment as required
H318 Causes serious eye damage
P273 Avoid release to the environment
P342+P311 IF EXPERIENCING RESPIRATORY SYMPTOMS: Call a POISON CENTER or doctor/physician
P301+P312+P330 IF SWALLOWED: CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL. RINSE MOUTH
P304+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P280.P301+P310 One or more of the CLP statements could not be found.

2.3 Other hazards
No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Mixtures

<table>
<thead>
<tr>
<th>Chemical</th>
<th>EC No.</th>
<th>REACH No.</th>
<th>CAS No.</th>
<th>Concentration</th>
<th>P-code(s)</th>
<th>H-code(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BICINE</td>
<td>-</td>
<td>-</td>
<td>150-25-4</td>
<td>0.1M</td>
<td>P280</td>
<td>H316</td>
</tr>
<tr>
<td>CHAPS</td>
<td>-</td>
<td>-</td>
<td>75621-03-3</td>
<td>1.2%v/v</td>
<td>P280</td>
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</table>
4.3 Indication of any immediate medical attention and special treatment needed

No data available.
5. FIRE-FIGHTING METHOD
5.1 Extinguishing media
Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

5.3 Advice for firefighters
Wear breathing apparatus. Use water spray to cool unopened containers. Emits toxic fumes under fire conditions.

6. ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
Avoid breathing vapours. Use personal protective equipment including respiratory protection. Use personal protective equipment. Ensure adequate ventilation.

6.2 Environmental precautions
Do not let product enter drains

6.3 Methods and materials for containment and clean up
Use spill kit to contain spillage & use wet brushing to place in a suitable container for disposal. Do not flush with water. Evacuate personnel to safe areas.

6.4 Reference to any other sections
For disposal, see section 1

7. HANDLING AND STORAGE
7.1 Precautions for safe handling
For precautions, see section 2.2

7.2 Conditions for safe storage, including any incompatibilities.
Store in cool place. Keep container tightly closed in well-ventilated place. Containers which are opened must be carefully resealed and stored upright to prevent leakage.

7.3 Specific end use
Apart from uses in Section 1.2, no other specific uses are stipulated.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION
8.1 Control parameters

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.</th>
<th>Country</th>
<th>Limit value</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene glycol</td>
<td>107-21-1</td>
<td>UK</td>
<td>40 ppm</td>
<td>EH40 WEL - Workplace Exposure Limit</td>
</tr>
<tr>
<td>Glycerol</td>
<td>56-81-5</td>
<td>UK</td>
<td>10 mg/m³</td>
<td>EH40 WEL - Workplace Exposure Limit</td>
</tr>
<tr>
<td>Hexylene glycol</td>
<td>107-41-5</td>
<td>UK</td>
<td>25 mg/m³</td>
<td>EH40 WEL - Workplace Exposure Limit</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

8.2.1 Appropriate engineering controls
Wash hands before work break and at the end of the day

8.2.2 Personal protection

Eye/face protection
Face shield & safety specs.

Skin Protection
Nitrile gloves (splash protection only) and lab coat

Respiratory protection
Use respirators and components tested and approved under appropriate government standards such as CEN (EU) as back up to engineering control

Environmental exposure controls
Do not let product enter drains

9. PHYSICAL AND CHEMICAL PROPERTIES

a) Appearance: Transparent liquid
b) Odour: No data available
c) Odour threshold: No data available
d) pH: No data available
e) Melting point / freezing point: No data available
f) Initial boiling point and boiling range: No data available
g) Flash point: No data available
h) Evaporation rate: No data available
i) Flammability: No data available
j) Upper / lower flammability or exposure limits: No data available
k) Vapour pressure: No data available
l) Vapour density: No data available
m) Relative density: No data available
n) Solubility(ies): No data available
o) Partition coefficient: n-octanol / water: No data available
p) Auto-ignition temperature: No data available
q) Decomposition temperature: No data available
r) Viscosity: No data available
s) Explosive properties: No data available
t) Oxidising properties: No data available

10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available
10.2 Chemical stability: No data available
10.3 Possibility of hazardous reactions: No data available
10.4 Conditions to avoid: No data available
10.5 Incompatible materials: Strong oxidising agents, strong acids, strong bases
10.6 Hazardous decomposition materials: No data available. In case of fire see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
a) Acute toxicity: No data available
b) Skin corrosion / irritation: No data available
c) Serious eye damage / irritation: No data available
d) Respiratory or skin sensitization: No data available
11.2 Delayed and immediate effects as well as chronic effects from short to long term exposure

Symptoms
Burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. Early symptoms of ingestion similar to drunkenness, leading to nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular, collapse, pulmonary edema. Without treatment, death may occur in 2h to 24h. Long term affects include renal failure, brain and liver damage. Consumption of alcohol may increase toxic effects. Headache, nausea, vomiting. May cause kidney irregularities. Material is extremely destructive to mucous membranes & upper respiratory tract. Cough, shortness of breath, headache, nausea, vomiting. Prolonged or repeated exposure can cause; Blood disorders, vomiting, Diarrhoea. Central nervous system depression, Dizziness, Blurred vision, Tremors, Drowsiness, Convulsions, Unconsciousness.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
No data available

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
No data available

12.6 Other adverse effects
No data available

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product / packaging disposal
Dispose of packaging as unused product. Offer surplus and non-recyclable solutions to a licensed disposal company. Observe all EU and local environmental regulations

14. TRANSPORT INFORMATION

14.1 UN number
A.R.D./R.I.D. 3082
I.M.D.G. 3082
I.C.A.O.-T.I. 3082
A.D.N. 3082

14.2 UN proper shipping name
A.R.D./R.I.D. Environmentally hazardous substance, liquid, n.o.s.

14.3 Transport hazard classes
A.R.D./R.I.D. 9
I.M.D.G. 9
I.C.A.O.-T.I. 9
A.D.N. 9

14.4 Packaging group
A.R.D./R.I.D. II
I.M.D.G. II
I.C.A.O.-T.I. II
A.D.N. II

14.5 Environmental hazards
A.R.D./R.I.D. Yes
I.M.D.G. Yes
I.C.A.O.-T.I. Yes
A.D.N. Yes

14.6 Special precautions for user
A.R.D./R.I.D. No data available
I.C.A.O.-T.I. No data available

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations
No data available.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out.

16. OTHER INFORMATION

a) Changes since last revision
First issue

b) Key to any abbreviations used
PPE Personal protective equipment
A.R.D./R.I.D. International Carriage of Dangerous Goods by Road / Rail
I.M.D.G. International Maritime Dangerous Goods
A.D.N. International Carriage of Dangerous Goods by Inland Waterways
TWA Time-weighted average
STEL Short-term exposure limit

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I.M.D.G. International Maritime Dangerous Goods
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TWA Time-weighted average
STEL Short-term exposure limit

c) References and sources for data
sigma-aldrich.com
fishersci.co.uk
anatrace.com

d) Indication of methods used for classification (mixtures only)
No data available

e) List of Hazard and Precautionary phrase not listed in full in other sections
See Section 2.1.

f) Advice for training
Disclaimer:
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Molecular Dimensions Ltd., shall not be held liable for any damage resulting from handling or from contact with the above product.