SAFETY DATA SHEET
M417 Econ Orange Curable Striping Ink

1. Identification

Product Identifier
Product name M417 Econ Orange Curable Striping Ink
Product number 71001524
Container size 5 Gallon Pail

Recommended use of the chemical and restrictions on use
Application Printing ink.
Uses advised against No specific uses advised against are identified.

Details of the supplier of the safety data sheet
Supplier Matthews Marking Systems
6515 Penn Avenue
Pittsburgh, PA 15206
412.665.2500
412.828.4545
info@matw.com

Manufacturer Matthews Marking Systems
101 Fairview Ave.
Pittsburgh, PA 15238

Emergency telephone number

2. Hazard(s) identification

Classification of the substance or mixture
OSHA Regulatory Status This Product is Hazardous under the OSHA Hazard Communication Standard.
Physical hazards Flam. Liq. 3 - H226
Health hazards Muta. 1B - H340 Carc. 1B - H350
Environmental hazards Not Classified

Label elements
Pictogram

Signal word Danger

Hazard statements H226 Flammable liquid and vapor.
H340 May cause genetic defects.
H350 May cause cancer.

Comments Full list of Hazard Statements is found in Sec. 16
M417 Econ Orange Curable Striping Ink

Precautionary statements

P210 Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308+P313 If exposed or concerned: Get medical advice/attention.
P403+P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/container in accordance with national regulations.

Contains

HiSol 100

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>HiSol 100</th>
<th>60-100%</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAS number: 64742-95-6</td>
<td></td>
</tr>
</tbody>
</table>

Classification

- Muta. 1B - H340
- Carc. 1B - H350
- Asp. Tox. 1 - H304

The Full Text for all Hazard Statements are Displayed in Section 16.

4. First-aid measures

Description of first aid measures

General information

Consult a physician for specific advice. Show this Safety Data Sheet to the medical personnel.

Inhalation

Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention immediately.

Ingestion

Get medical attention immediately. Do not induce vomiting. Aspiration hazard if swallowed.

Skin Contact

Rinse immediately contaminated clothing and skin with plenty of water before removing clothes. Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing. Wash clothing and clean shoes thoroughly before reuse.

Eye contact

Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes and get medical attention.

Protection of first aiders

First aid personnel should wear appropriate protective equipment during any rescue.

Most important symptoms and effects, both acute and delayed

General Information

See Section 11 for additional information on health hazards.

Inhalation

Overexposure to organic solvents may depress the central nervous system, causing dizziness and intoxication and, at very high concentrations, unconsciousness and death.

Ingestion

May cause discomfort if swallowed. May cause nausea, headache, dizziness and intoxication. Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

Skin contact

Prolonged or repeated contact with skin may cause irritation, redness and dermatitis.

Eye contact

May cause eye irritation.

Indication of immediate medical attention and special treatment needed
M417 Econ Orange Curable Striping Ink

Notes for the doctor
Treat symptomatically.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

Unsuitable extinguishing media
Water spray.

Special hazards arising from the substance or mixture

Flammability Class
7.1 Flammable Liquid IC.

Specific hazards
Flammable liquid and vapour. Vapors are heavier than air and may spread near ground and travel a considerable distance to a source of ignition and flash back.

Hazardous combustion products
Thermal decomposition or combustion products may include the following substances: Carbon dioxide (CO2). Carbon monoxide (CO).

Advice for firefighters

Protective actions during firefighting
Evacuate area. Stop leak if safe to do so. Use water to keep fire exposed containers cool and disperse vapors. Use water spray to reduce vapors.

Special protective equipment for firefighters
Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions
No smoking, sparks, flames or other sources of ignition near spillage. Avoid contact with skin, eyes and clothing. Avoid inhalation of vapors. Wash thoroughly after dealing with a spillage.

Environmental precautions

Environmental precautions
Avoid release to the environment.

Methods and material for containment and cleaning up

Methods for cleaning up
Eliminate all sources of ignition. Stop leak if safe to do so. Contain and absorb spillage with sand, earth or other non-combustible material. Dilute contained spill with water. Collect and place in suitable waste disposal containers and seal securely.

Reference to other sections
For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. Handling and storage

Precautions for safe handling

Usage precautions
Wear protective clothing as described in Section 8 of this safety data sheet.

Advice on general occupational hygiene
Do not eat, drink or smoke when using this product. Provide eyewash station and safety shower. Good personal hygiene procedures should be implemented. Wash skin thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Storage precautions
Keep only in the original container in a cool, well-ventilated place.

Storage class
Flammable liquid storage.
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Specific end uses(s)
The identified uses for this product are detailed in Section 1.2.

8. Exposure Controls/personal protection

Control parameters

Occupational exposure limits

HiSol 100

Exposure limit: OSHA 245 - cumene mg/m3 50 ppm Dermal
Exposure limit: ACGIH 25 - pseudocumene ppm vapor
Exposure limit: 19 - naphtha, light aromatic ppm 100 ppm as total hydrocarbons
Exposure limit: OSHA 150 - xylenes ppm vapor
Exposure limit: ACGIH 100 - xylenes ppm vapor

OSHA = Occupational Safety and Health Administration.
ACGIH = American Conference of Governmental Industrial Hygienists.

Ingredient comments
Data based on literature. Product not tested.

Exposure controls

Protective equipment

Appropriate engineering controls
As this product contains ingredients with exposure limits, process enclosures, local exhaust ventilation or other engineering controls should be used to keep worker exposure below any statutory or recommended limits, if use generates dust, fumes, gas, vapor or mist. Use explosion-proof ventilating equipment.

Eye/face protection
Wear tight-fitting, chemical splash goggles or face shield.

Hand protection
It is recommended that chemical-resistant, impervious gloves are worn. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Butyl rubber. Nitrile rubber. Rubber (natural, latex). Frequent changes are recommended.

Other skin and body protection
Wear appropriate clothing to prevent repeated or prolonged skin contact.

Hygiene measures
Provide eyewash station and safety shower.

Respiratory protection
If ventilation is inadequate, suitable respiratory protection must be worn. Wear a respirator fitted with the following cartridge: Organic vapor filter.

Thermal hazards
If there is a risk of contact with hot product, all protective equipment worn should be suitable for use with high temperatures.

Environmental exposure controls
Keep container tightly sealed when not in use. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance
Colored liquid.

Color
Orange.
M417 Econ Orange Curable Striping Ink

Odor
Aromatic hydrocarbons.

Odor threshold
Not available.

pH
pH (concentrated solution): 6.0 - 8.5

Melting point
-14°C/7°F

Initial boiling point and range
161°C/322°F @ 760 mm Hg

Flash point
34°C/94°F CC (Closed cup).

Evaporation rate
0.27 (butyl acetate = 1)

Upper/lower flammability or explosive limits
Upper flammable/explosive limit: 6.2 % vol Lower flammable/explosive limit: 0.9 % vol

Vapour pressure
1.97 mm Hg @ 20°C/68°F

Vapour density
4.2

Relative density
0.94391 g/cc 943.91 g/l 7.86 lbs/gal

Solubility(ies)
Soluble in the following materials: Aromatic solvents. Hydrocarbons. Insoluble in water.

Partition coefficient
Not determined.

Auto-ignition temperature
479°C/894°F

Decomposition Temperature
Not applicable.

Explosive properties
Not applicable.

Oxidising properties
Not applicable.

Comments
Data based on literature. Product not tested. Information given is applicable to the product as supplied. Information declared as "Not available" or "Not applicable" is not considered to be relevant to the implementation of the proper control measures.

Volatile organic compound
This product contains a maximum VOC content of 678 g/l. This product contains a maximum VOC content of 5.65 lbs/gal.

10. Stability and reactivity

Reactivity
There are no known reactivity hazards associated with this product.

Stability
Stable at normal ambient temperatures and when used as recommended.

Possibility of hazardous reactions
The following materials may react with the product: Strong acids. Strong oxidizing agents.

Conditions to avoid
Avoid the following conditions: Heat, sparks, flames.

Materials to avoid
Avoid contact with the following materials: Strong acids. Strong oxidizing agents.

Hazardous decomposition products
Heating may generate the following products: Carbon dioxide (CO2). Carbon monoxide (CO). Hydrocarbons.

11. Toxicological Information

Information on toxicological effects
Data based on literature. Product not tested.
M417 Econ Orange Curable Striping Ink

Specific target organ toxicity - single exposure
Target organs Central nervous system Eyes Respiratory system, lungs Skin

Specific target organ toxicity - repeated exposure
Target organs Blood Central nervous system Gastro-intestinal tract Kidneys Liver Respiratory system, lungs Skin

Aspiration hazard
Aspiration hazard Aspiration hazard if swallowed. May be fatal if swallowed and enters airways. Entry into the lungs following ingestion or vomiting may cause chemical pneumonitis.

12. Ecological Information
Ecotoxicity Data based on literature. Product not tested.
Bioaccumulative potential
Partition coefficient Not determined.

13. Disposal considerations
Waste treatment methods
General information Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements.
Disposal methods Dispose of contents/container in accordance with national regulations. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority. Residues and empty containers should be taken care of as hazardous waste according to local and national provisions. When handling waste, the safety precautions applying to handling of the product should be considered.

14. Transport information
UN Number
UN No. (DOT) 1210
UN No. (IMDG) 1210
UN No. (ICAO) 1210

UN proper shipping name
Proper shipping name (DOT) PRINTING INK
Proper shipping name (IMDG) PRINTING INK
Proper shipping name (ICAO) PRINTING INK

Transport hazard class(es)
IMDG Class 3
ICAO class/division 3

Transport labels

Packing group
M417 Econ Orange Curable Striping Ink

DOT pack group  III
IMDG packing group  III
ICAO packing group  III

Environmental hazards
Environmentally Hazardous Substance
No.

Special precautions for user
EmS  F-E, S-D

15. Regulatory information

Regulatory Status  Hazardous Chemical

US Federal Regulations
CERCLA/Superfund, Hazardous Substances/Reportable Quantities (EPA)
  HiSol 100
SARA (311/312) Hazard Categories
  HiSol 100

US State Regulations
California Directors List of Hazardous Substances
The following ingredients are listed or exempt:

Massachusetts "Right To Know" List
The following ingredients are listed or exempt:

Rhode Island "Right To Know" List
The following ingredients are listed or exempt:
  HiSol 100

Minnesota "Right To Know" List
The following ingredients are listed or exempt:
  HiSol 100

New Jersey "Right To Know" List
The following ingredients are listed or exempt:
  HiSol 100

Pennsylvania "Right To Know" List
The following ingredients are listed or exempt:
  HiSol 100

Inventories
EU - EINECS/ELINCS
All the ingredients are listed or exempt.

Canada - DSL/NDSL
M417 Econ Orange Curable Striping Ink

All the ingredients are listed or exempt.

US - TSCA
All the ingredients are listed or exempt.

Australia - AICS
The following ingredients are listed or exempt:

HiSol 100

Japan - MITI
The following ingredients are listed or exempt:

HiSol 100

Korea - KECI
The following ingredients are listed or exempt:

HiSol 100

China - IECSC
The following ingredients are listed or exempt:

HiSol 100

Philippines - PICCS
The following ingredients are listed or exempt:

HiSol 100

16. Other information

<table>
<thead>
<tr>
<th>General information</th>
<th>Containers of this material may be hazardous when emptied, all hazard precautions given in the data sheet must be observed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issued by</td>
<td>Matthews Marking Systems - Chemical Services Department</td>
</tr>
<tr>
<td>Revision date</td>
<td>12/31/2015</td>
</tr>
<tr>
<td>Revision</td>
<td>2</td>
</tr>
<tr>
<td>Supersedes date</td>
<td>6/1/2015</td>
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<tr>
<td>SDS No.</td>
<td>5684</td>
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<tr>
<td>SDS status</td>
<td>Approved.</td>
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<tr>
<td>Hazard statements in full</td>
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</tr>
<tr>
<td>NFPA - flammability hazard</td>
<td>Burns only if heated moderately. (2)</td>
</tr>
<tr>
<td>NFPA - health hazard</td>
<td>Irritation, minor residual injury. (1)</td>
</tr>
<tr>
<td>NFPA - instability hazard</td>
<td>Normally stable. (0)</td>
</tr>
<tr>
<td>ACA HMIS Health rating.</td>
<td>Slight hazard. (1)</td>
</tr>
<tr>
<td>ACA HMIS Physical hazard rating.</td>
<td>Normally stable. (0)</td>
</tr>
<tr>
<td>ACA HMIS Personal protection rating.</td>
<td>C</td>
</tr>
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</table>
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ACA HMIS Flammability rating. Burns only if heated moderately. (2)

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.