SDS - CHEM013 – Measurement Standard

C Technologies, Inc. does not manufacture CHEM013. CHEM013 is manufactured exclusively for C Technologies by GFS Chemicals. Attached you will find the SDS.
SAFETY DATA SHEET

1. Identification

Product Identifier IN-SPEC® PATENT BLUE COLOR STANDARD, CUSTOM UV-VISIBLE REFERENCE MATERIAL

Other means of identification
Product code 8416

Recommended use professional, scientific and technical activities: other professional, scientific and technical activities

Recommended restrictions None known

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
Company Name GFS Chemicals, Inc.
800 Kaderly Drive
Columbus, OH 43228
United States

Telephone Phone 740-881-5501
Toll Free 800-858-9682
Fax 740-881-5989

Website www.gfschemicals.com
E-mail service@gfschemicals.com
Emergency Phone No. Emergency Assistance Chemtrec 800-424-9300

2. Hazard(s) Identification

Physical hazards Flammable liquids Category 4

Health hazards Reproductive toxicity Category 1
Specific target organ toxicity, single exposure Category 1
Specific target organ toxicity, repeated exposure Category 1

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard Statement Combustible liquid. May damage fertility or the unborn child. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.

Precautionary statement

Prevention Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from flames and hot surfaces-No smoking. Do not breathe mist or vapor. Wear protective gloves/protective clothing/eye protection/face protection.

Response In case of fire: Use appropriate media to extinguish. If exposed or concerned: Get medical advice/attention.

Storage Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.

Disposal Dispose of contents/container to an appropriate treatment and disposal facility in accordance with product characteristics at time of disposal.
Hazard(s) not otherwise classified (HNOC)

None known

Supplemental information

1-3% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 1-3% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

3. Composition/Information on Ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td></td>
<td>7732-18-5</td>
<td>90 – 100</td>
</tr>
<tr>
<td>METHYL ALCOHOL</td>
<td>WOOD ALCOHOL METHANOL</td>
<td>67-56-1</td>
<td>1 - &lt; 3</td>
</tr>
<tr>
<td>PATENT BLUE VIOLET</td>
<td>ACID BLUE 1 CI 42045</td>
<td>129-17-9</td>
<td>&lt; 0.1</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First Aid Measure

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact: Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact: Rinse with water. Get medical attention if irritation develops and persists.
Ingestion: Rinse mouth. Get medical attention if symptoms occur.
Most Important symptoms/effects, acute and delayed: Direct contact with eyes may cause temporary irritation. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed: Provide general supportive measure and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
General Information: IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

5. Fire Fighting Measures

Suitable extinguishing media: Water fog. Foam. Dry chemical powder, Carbon dioxide (CO2).
Unsuitable extinguishing media: Do not use a solid water stream as it may scatter and spread fire.
Specific hazards arising from the chemical: The product is combustible, and heating may generate vapors which may form explosive vapor/air mixtures. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters: Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions: In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards: Combustible liquid.
6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Stop leak if you can do so without risk. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Should not be released into the environment. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations.

Large Spills: Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from open flames, hot surfaces and sources of ignition. Do not breathe mist or vapor. Avoid prolonged exposure. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).
8. Exposure Controls/Personal Protection

Occupational exposure limits
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>67-56-1</td>
<td>PEL</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

U.S. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>67-56-1</td>
<td>STEL</td>
<td>250 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

U.S. NIOSH Pocket Guide to Chemical Hazards

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>67-56-1</td>
<td>STEL</td>
<td>325 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>250 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>260 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>200 ppm</td>
</tr>
</tbody>
</table>

Biological Limit Values
ACGIH Biological Exposure Indices

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Value</th>
<th>Determinant</th>
<th>Specimen</th>
<th>Sampling Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL</td>
<td>67-56-1</td>
<td>15 mg/l</td>
<td>Methanol</td>
<td>Urine</td>
<td>*</td>
</tr>
</tbody>
</table>

* For sampling details, please see the source document.

Exposure guidelines
US - California OELs: Skin designation
METHYL ALCOHOL (CAS 67-56-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies
METHYL ALCOHOL (CAS 67-56-1) Skin designation applies.

US - Tennessee OELs: Skin designation
METHYL ALCOHOL (CAS 67-56-1) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation
METHYL ALCOHOL (CAS 67-56-1) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation
METHYL ALCOHOL (CAS 67-56-1) Can be absorbed through the skin.
Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate protective clothing. Use of an impervious apron is recommended.

Respiratory protection

If ventilation is not sufficient to effectively prevent buildup of aerosols or mists, appropriate NIOSH/MSHA respiratory protection must be provided. Chemical respirator with organic vapor cartridge.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Observe any medical surveillance requirements. When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Dark blue</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting point/Freezing point</td>
<td>&lt; 32 °F (&lt; 0 °C) estimated</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>212 °F (100 °C) estimated</td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 141.8 °F (&gt; 61.0 °C)</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability limit – upper (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit – lower (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive limit – upper (%)</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not available</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (ies)</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol water)</td>
<td>Not available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available</td>
</tr>
</tbody>
</table>
Viscosity
Not available

Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density</td>
<td>1.00 g/cm³ estimated</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Flammability Class</td>
<td>Combustible IIIA estimated</td>
</tr>
<tr>
<td>Flash Point class</td>
<td>Combustible IIIA</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not oxidizing.</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>&gt; 99 %</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>1 estimated</td>
</tr>
<tr>
<td>VOC</td>
<td>&lt; 2.5 %</td>
</tr>
</tbody>
</table>

10. Stability & Reactivity Information

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions

Possibility of hazardous reactions
Hazardous polymerization does not occur.

Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials
Strong oxidizing agents.

Hazardous decomposition products
May include oxides of carbon

11. Toxicological Information

Information on likely routes of exposure

Inhalation
May cause damage to organs by inhalation. May cause damage to organs through prolonged or repeated exposure by inhalation.

Skin contact
No adverse effects due to skin contact are expected.

Eye contact
Direct contact with eyes may cause temporary irritation.

Ingestion
Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL (CAS 67-56-1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>15800mg/kg</td>
</tr>
<tr>
<td>Inhalation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>87.5 mg/l, 6 Hours</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>5628 mg/kg</td>
</tr>
</tbody>
</table>
Skin corrosion/irritation
Prolonged skin contact may cause temporary irritation.
Serious eye damage/eye irritation
May irritate eyes.
Respiratory or skin sensitization
- Respiratory sensitization
Not a respiratory sensitizer.
- Skin sensitization
This product is not expected to cause skin sensitization.
Germ cell mutagenicity
No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
Not classifiable as to carcinogenicity to humans.

- IARC Monographs. Overall Evaluation of Carcinogenicity
PATENT BLUE VIOLET (CAS 129-17-9) 3 Not classifiable as to carcinogenicity to humans.

Not regulated.

- US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

Reproductive toxicity
May damage fertility or the unborn child.

- Specific target organ toxicity
Causes damage to organs.

- Specific target organ toxicity
Causes damage to organs through prolonged or repeated exposure.
- Aspiration hazard
Not an aspiration hazard.
- Chronic effects
Causes damage to organs through prolonged or repeated exposure.
Prolonged inhalation may be harmful.

12. Ecological Information

Ecotoxicity
This product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>METHYL ALCOHOL (CAS 65-56-1)</td>
<td>Aquatic</td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>Water Flea (Daphnia magna)</td>
<td>&gt; 10000 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>Bluegill (Lepomis macrochirus)</td>
<td>13500 - 17600 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential
Partition coefficient n-octanol / water (log Kow)
METHYL ALCOHOL -0.77
PATENT BLUE VIOLET 0.572
Mobility in soil
No data available.
Other adverse effects
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal Considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations
Dispose in accordance with all applicable regulations.

Hazardous waste code
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging
Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport Information

DOT
Not regulated as dangerous goods.

IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to
Annex II of MARPOL 73/78 and the IBC Code
Not established.

15. Regulatory Information

US federal regulations:
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated

CERCLA/SARA Hazardous Substances
METHYL ALCOHOL (CAS 67-56-1) Listed.

SARA 304 Emergency release notification
Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
Not Regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 extremely hazardous substance
Not Listed

SARA 311/312 Hazardous chemical
Yes

Classified hazard Categories
Flammable (gases, aerosols, liquids, or solids)
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI Reporting)
Chemical Name CAS Number % by wt.

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Other Federal Regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
METHYL ALCOHOL (CAS 67-56-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.

Safe Drinking Water Act (SDWA)
Not regulated.

US state regulations

California Proposition 65

WARNING: This product can expose you to METHYL ALCOHOL, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Developmental toxin
METHYL ALCOHOL (CAS 67-56-1) Listed: March 16, 2012

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

METHYL ALCOHOL (CAS 67-56-1)

International Inventories

Country(s) or region | Inventory name | on inventory (yes/no)*
---------------------|----------------|---------------------
Australia            | Australian Inventory of Chemical Substances (AICS) | Yes
Canada               | Domestic Substances List (DSL) | Yes
Canada               | Non-Domestic Substances List (NDSL) | No
China                | Inventory of Existing Chemical Substances in China (IECSC) | Yes
Europe               | European Inventory of New and Existing Chemicals (EINECS) | Yes
Europe               | European List of Notified Chemical Substances (ELINCS) | No
Japan                | Inventory of Existing and New Chemical Substances (ENCS) | Yes
Korea                | Existing Chemicals List (ECL) | Yes
New Zealand          | New Zealand Inventory | Yes
Philippines          | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes
Taiwan               | Taiwan Chemical Substance Inventory (TCSI) | No
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes

* A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other Information

Manufacturer's Issue date | May-14-2015
Manufacturer's Revision Date | July-26-2018
Manufacturer's Version No. | 04
Disclaimer | GFS Chemicals, Inc. cannot anticipate all conditions under which this

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information and its product, or the products of other manufacturers in
combination with its product, may be used. It is the user’s responsibility to
ensure safe conditions for handling, storage and disposal of the product, and to
assume liability for loss, injury, damage or expense due to improper use. The
information in the sheet was written based on the best knowledge and
experience currently available.

Revision information
Hazard(s) identification: Response
Handling and storage: Precautions for safe handling
Handling and storage: Conditions for safe storage, including any incompatibilities
Exposure controls/personal protection: PPE Symbols
Stability and reactivity: Conditions to avoid
Toxicological information: Acute toxicity
Toxicological information: Inhalation
Regulatory information: California Proposition 65