

## 1.) Identification

**Product Identifier** –MM-54

**Other Means of Identification** –

Black (01647)

XV-1081

**Recommended Use of Chemicals and Restrictions** – Marking Pens

**Supplier Information**

Arro-Mark LLC.

158 West Forest Ave

Englewood, New Jersey, 07631 USA

**Emergency Telephone Number**

Chem Trec: US 800-424-9300

## 2.) Hazard(s) Identification

**OSHA/HCS status:** This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

**Classification**

Physical Hazards	Flammable Liquids	Category 2
Health Hazards	Skin Corrosion/Irritation	Category 1B
	Target Organ Systemic Toxicity – Single Exposure (Respiratory Tract irritation)	Category 3
	Target Organ Systemic Toxicity – Single Exposure (Central Nervous System)	Category 3

**GHS Label Elements**



**THIS PRODUCT IS NOT CORROSIVE TO METAL**

**Signal Word**

Danger

**Hazard Statements**

- H225: Highly flammable liquid and vapour
- H302: Harmful if swallowed.
- H304: May be fatal if swallowed and enters airways.
- H314: Causes severe skin burns and eye damage
- H317: May cause an allergic skin reaction
- H318: Causes serious eye damage
- H335: May cause respiratory irritation
- H336: May cause drowsiness or dizziness

**Precautionary Statements**

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.  
 P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233: Keep container tightly closed.  
 P235: Keep cool.  
 P240: Ground/bond container and receiving equipment.  
 P241: Use explosion-proof electrical/ventilating/light/equipment.  
 P242: Use only non-sparking tools.  
 P243: Take precautionary measures against static discharge.  
 P261: Avoid breathing vapors.  
 P271: Use only outdoors or in a well-ventilated area.  
 P280: Wear protective gloves/protective clothing/eye protection/face protection.  
 P281: Use personal protective equipment as required.  
 P313: Get medical advice/attention.  
 P314: Get Medical advice/attention if you feel unwell.  
 P340: Remove person to fresh air and keep comfortable for breathing.  
 P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
 P304+312: IF INHALED: Call a POISON CENTER or doctor/physician if you feel unwell.  
 P304+340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.  
 P370+378: In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
 P370+380: In case of fire: Evacuate area.  
**Hazard not otherwise specified**

### 3.) Composition/Information on Ingredients

**Substance/mixture:** Mixture

**Other means of identification:** Not Available

**CAS No.:** Not Applicable

Chemical Name	CAS-No	Weight %	Trade Secret
n-propanol	71-23-8	40-50%	Yes
Diacetone Alcohol	123-42-2	10-15%	Yes

### 4.) First Aid Measures

**Description of Necessary First-Aid Measures**

<b>General Advice</b>	Move out of dangerous area. Consult a physician. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
<b>Eye Contact</b>	Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.
<b>Skin Contact</b>	Get medical attention immediately. Call a poison center or physician. Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
<b>Inhalation</b>	Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-

	mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
<b>Ingestion</b>	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Most Important Symptoms/effects**

<b>Eye Contact</b>	Causes serious eye damage.
<b>Inhalation</b>	Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.
<b>Skin Contact</b>	Defatting to the skin. May cause skin dryness and irritation.
<b>Ingestion</b>	May cause burns to mouth, throat and stomach. Gastrointestinal discomfort, abdominal pain, vomiting

**Over-exposure signs/symptoms**

Eye Contact	Adverse symptoms may include the following: pain, watering, redness
Inhalation	Adverse symptoms may include the following: respiratory tract irritation, coughing
Skin Contact	Adverse symptoms may include the following: pain or irritation, redness, dryness, cracking, blistering may occur
Ingestion	Adverse symptoms may include the following: stomach pains

**Indication of immediate medical attention and special treatment needed, if necessary**

Notes to physician	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled
Specific Treatments	No specific treatment.
Protection of first-aiders	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves

**5.) Fire-fighting Measures**

**Flash Point** - 72 °F

**Suitable Extinguishing Media**

Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.

**Unsuitable Extinguishing Media**

Do not use water jet.

**Specific Hazards for Chemical**

Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

**Hazardous Thermal Decomposition Products**

Decomposition products may include the following materials:

Carbon dioxide, Carbon monoxide, (dense) black smoke, Aldehydes, Organic acids

**Protective Equipment and Precautions for Firefighters**

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use

water spray to keep fire-exposed containers cool. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6.) Accidental Release Measures

### Personal precautions, protective equipment and emergency procedures

**Non-emergency personnel:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**Emergency responders:** If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. See also the information in "For nonemergency personnel"

### **Environmental Precautions:**

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and Materials for Containment and Clean up

<p><b>Small Spill</b></p>	<p>Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor</p>
<p><b>Large Spill</b></p>	<p>Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with noncombustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.</p>

## 7.) Handling and Storage

### Precautions for Safe Handling

Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

### Conditions for Safe Storage Incompatible Products

Do not store above the following temperature: 30°C (86°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in

unlabeled containers. Use appropriate containment to avoid environmental contamination. Store in original container, protected from direct sunlight.

## 8.) Exposure Controls / Personal Protection

Chemical Name	Exposure Limits
n-Propanol	<b>ACGIH</b> TWA: 100 ppm <b>NIOSH REL</b> TWA: 200 ppm TWA: 500 mg/m <sup>3</sup> ST: 250 ppm ST: 625 mg/m <sup>3</sup> <b>OSHA</b> TWA: 200 ppm TWA: 500 mg/m <sup>3</sup> STEL: 250 ppm STEL: 625 mg/m <sup>3</sup> TWA: 200 ppm 500mg/m <sup>3</sup>
Diacetone Alcohol	<b>ACGIH</b> TWA: 50 ppm <b>OSHA</b> PEL: 50 ppm

### Appropriate Engineering Controls

Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### Environmental Exposure Controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Personal Protection Measures

#### **Hygiene Measures**

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### **Eye/Face Protection**

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

#### **Hand Protection**

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of

several substances, the protection time of the gloves cannot be accurately estimated. 1 - 4 hours (breakthrough time): Butyl rubber (0.70 mm)

< 1 hour (breakthrough time): nitrile rubber (0.4 mm)

#### Body Protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

#### Other Skin Protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## 9.) Physical and Chemical Properties

Physical State	Liquid
Appearance	Black
Flammability Limits	No data
Odor	Alcohol
Vapor Pressure	No data
Odor threshold	No data
Vapor Density	No data
pH	No data
Relative Density	No data
Melting Point	No data
Boiling Point	282°F
Solubility	Insoluble in water
Flash Point	No data
Evaporation Rate	Less than one (1)
Flammability	No data
Auto-Ignition Temperature	No data
Decomposition Temperature	No data
Viscosity	No data

#### Volatile Organic Compounds:

Black (XV-1081) – 63%, 4.67 PPG, 560.34 g/L

## 10.) Stability and Reactivity

**Reactivity** – No specific test data related to reactivity available for this product or its ingredients.

**Chemical Stability** – The product is stable.

**Possibility of Hazardous Reactions** – Under normal conditions of storage and use, hazardous reactions will not occur. Vapors may form explosive mixture with air.

**Hazardous Polymerization** – No specific data

**Conditions to Avoid** – Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

**Incompatible Materials** – Reactive or incompatible with the following materials: oxidizing materials, Strong acids, Aldehydes, halogens

**Hazardous Decomposition of Product** – No specific Data

## 11.) Toxicological Information

### Acute Toxicity

Chemical	Result	Species	Dose	Exposure
n-Propanol	LD50 Oral	Rat	5,400 mg/kg	4 hours
	LC50 Inhalation Vapor	Rat	33.8 mg/l	
	LD50 Dermal	Rabbit	4,032 mg/kg	
Diacetone Alcohol	LD50 Oral	Rat	4.0 g/kg	-
	LD50 Dermal	Rat	14.5 ml/kg	-

### Irritation/Corrosion

Chemical	Result	Species	Score	Exposure	Observation
n-Propanol	Skin – Irritant Eye – Severe Damage				

### Sensitization

Chemical	Route of exposure	Species	Result

### Mutagenicity

Chemical	Test	Exposure	Result

### Carcinogenicity

Chemical	OSHA	IARC	NTP

### Information on the likely routes of exposure

Not Available

### Specific Target Organ Toxicity (Single Exposure)

Chemical	Category	Route of Exposure	Target Organs
n-Propanol	Category 3	Inhalation	Central Nervous System

### Specific Target Organ Toxicity (Repeated Exposure)

Chemical	Category	Route of Exposure	Target Organs

### Potential Acute Health Effects

<b>Eye Contact</b>	Causes serious eye damage
<b>Inhalation</b>	Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness
<b>Skin Contact</b>	Defatting to the skin. May cause skin dryness and irritation
<b>Ingestion</b>	May cause burns to mouth, throat and stomach

### Aspiration Hazard

Chemical	Result

n-Propanol	May be harmful if swallowed and enters airways.
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**Symptoms related to the physical, chemical and toxicological characteristics**

<b>Eye Contact</b>	Adverse symptoms may include the following: Pain, Watering, Redness
<b>Inhalation</b>	Adverse symptoms may include the following: Respiratory tract irritation, Coughing
<b>Skin Contact</b>	Adverse symptoms may include the following: Pain or irritation, Redness, Dryness, Cracking, Blistering my occur
<b>Ingestion</b>	Adverse symptoms may include the following: Stomach pains

**Description of the delayed, immediate, or chronic effects from short- and long-term exposure**

**Short Term Exposure:**

**Potential immediate effects:** Not available

**Potential delayed effects:** Not available

**Long Term Exposure**

**Potential immediate effects:** Not available

**Potential delayed effects:** Not available

**Potential Chronic Health Effects**

Chemical	Result	Species	Dose	Exposure
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**General:** Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. May cause damage to organs through prolonged or repeated exposure.

**Carcinogenicity:** Suspected of causing cancer. Risk of cancer depends on duration and level of exposure

**Mutagenicity:** No known significant effects or critical hazards.

**Developmental effects:** No known significant effects or critical hazards.

**Fertility effects:**

Species: rat

Application Route: Inhalation

Dose: 0, 3500, 7000 ppm

Duration of Single Treatment: 7 h

Frequency of Treatment: 7 days/week

Fertility: NOAEC: 3,500 ppm

**Effects on foetal development:**

Species: rat

Application Route: Inhalation

Dose: 0, 3500, 7000, and 10000 ppm

Duration of Single Treatment: 7 h

Frequency of Treatment: 7 days/week

General Toxicity Maternal: NOAEC: 3,500 ppm

Developmental Toxicity: NOAEC: 3,500 ppm

Symptoms: Skeletal malformations.

Method: OECD Test Guideline 414

**12.) Ecological Information**

**Ecotoxicity**

Product/ingredient name	Result	Species	Exposure
n-Propanol	LC50 4,555 mg/l	Fathead minnow	96 hours
	LC50 3,644 mg/l	Daphnia Magna	48 hours
	EC50 9,170 mg/l	Algae	48 hours



	NOEC50 >100 mg/l IC50 >1000 mg/l	Daphnia Bacteria	21 days 3 hours
Diacetone Alcohol	LC50 420 ppm LC50 420 ppm	Lepomis Macrochirus Menidia Berylina	96 hours 96 hours

**Persistence and Degradability**

Chemical	Test	Result	Dose	Inoculum
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Chemical	Aquatic half-life	Photolysis	Biodegradability
n-Propanol			75%

**Bioaccumulation**

Chemical	LogP <sub>ow</sub>	BCF	Potential
n-Propanol	0.25-0.35		

**Mobility in Soil**

Soil/water partition Coefficient (K<sub>oc</sub>): Not Available

**Other Information**

**13.) Disposal considerations**

**Disposal Method**

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers

**Disposal Container**

**Precautions**

**United States – RCRA Toxic Hazardous Waste “U” List**

Chemical	CAS No.	Status	Reference No.
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**14.) Transportation Information**

**Domestic Highway (Containers <1 Quart are ORM-D)**

Proper Shipping Name: Paint

Hazard Class/Subsidiary: 3

UN/NA No.: UN1263

Packing Group: 3

Label Required: Combustible Liquid (2)

**Domestic Air Shipments (Pens)**

Proper Shipping name: Consumer Commodity

Hazard class/Subsidiary Hazard: 9

UN/NA No.: I.D. 8000

**Packing Group:** none  
**Label Required:** class 9

**Special Precautions for User:** Transport within user’s premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**15.) Regulatory Information**

**Regulations**

**U.S. Federal regulations**

**Clean Water Act (CWA) 311:**

	Chemical	CAS no.	%

**Clean Air Act Section 602 Class I Substances:** Not Listed  
**Clean Air Act Section 602 Class II Substances:** Not Listed  
**DEA List I Chemicals (Precursor Chemicals):** Not Listed  
**DEA List II Chemicals (Essential Chemicals):** Not Listed

**State Regulations**

**Massachusetts:** The following components are listed: N-PROPANOL, DIACETONE ALCOHOL  
**New York:** The following components are listed: N-PROPANOL  
**New Jersey:** The following components are listed: N-PROPANOL, DIACETONE ALCOHOL  
**Pennsylvania:** The following components are listed: N-PROPANOL, DIACETONE ALCOHOL  
**Minnesota:** The following components are listed: DIACETONE ALCOHOL  
**Florida:** The following components are listed: DIACETONE ALCOHOL  
**Rhode Island:** The following components are listed: DIACETONE ALCOHOL  
**Wisconsin:** The following components are listed: DIACETONE ALCOHOL

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 311/312**

**Hazards:** Fire Hazard  
 Acute Health Hazard

**SARA 302:** No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313:** This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**The components of this product are reported in the following inventories:**

United States TSCA Inventory	Listed
Canadian Domestic Substances List (DSL)	Listed
Australia Inventory of Chemical Substances (AICS)	Listed
European List of Notified Chemical Substances (ELINCS)	Listed
MITI (Japanese Handbook of Existing and New Chemical Substances)	Listed
ECL (Korean Toxic Substances Control Act)	Listed
Philippines Inventory (PICCS)	Listed

**16.) Other Information**

**Prepared Date:** 4/15/15

# Arro-Mark

Revision Date:10/20/16

Standard (CFR 29 1910.1200)

## Safety Data Sheet

Revision Number:3

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**Revision Date:** 5/28/15

**Version:** 2

**HMIS Rating:**

**Health:** 2

**Flammability:** 3

**Physical Hazard:** 0

**NFPA Ratings:**

**Health:** 2

**Flammability:** 3

**Instability:** 0

**Disclaimer:** For use as marking pens only.