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Revision Number:

1. Identification of the Substance/Preparation and the Company Undertaking**GHS Product Identifier****Product Name** Nuclear High Purity Marker – White**Other Means of Identification****Part Number** 01306, 01307, 01308, 01309, 01338**Color** White**Formula Code** XV-790**Temperature Range** -20 to 150°F**Synonyms** none**Batch Number** XV-5112017**Report Date** 05-08-2017**Expiration Date/Shelf Life** 05-08-2021**Report Number** 85206**Recommended use of the chemical and restrictions on use****Recommended Use** Marker**Uses Advised Against** No information available**Supplier's Details****Supplier Address**

Arro-Mark LLC.

158 West Forest Ave

Englewood, New Jersey, 07631 USA

Phone: 201-657-4112

FAX: 201-567-1373

Emergency Telephone Number

Chemtrec US 800-424-9300 International 703-527-3887

2. HAZARDS IDENTIFICATION**Classification**

This chemical is considered hazardous according to the OSHA Hazard Communications Standard 2012 (29 CFR 1910.1200)

Contains Trimethyl benzene and Xylene:

Flammable Liquid Category 3

Skin Irritation Category 2

Eye Irritation category 2A

GHS Label Elements, including precautionary statements**Emergency Overview****Signal Word** – Danger**Hazard Statements** –

Skin irritation
Eye irritation
Respiratory irritation
May be harmful if swallowed
Flammable liquid and vapour



Appearance – Opaque, varies white or colored

Physical state- liquid

Odor – Petroleum Odor

Precautionary Statements

Prevention

Do not handle until all safety precautions have been read and understood

Keep container tightly closed

Avoid breathing dust/vapors/fumes

Wash face and hands and any exposed skin thoroughly after handling

Wear protective gloves/clothing/eye protection/face protection

Use personal protection as required

Keep away from heat, sparks, open flame

Use in a well-ventilated area

Avoid release to the environment

General Advice

If exposed or concerned: get medical attention/advice

ACUTE HAZARD: At high concentration, dizziness and unconsciousness may occur.

CAUTION: Contains heptane. Harmful or fatal if swallowed. Direct contact may cause skin or eye irritation.

KEEP OUT OF REACH OF CHILDREN.

Eyes

Rinse cautiously with water for several minutes. Remove contact lenses if present. Continue rinsing. If irritation persists seek medical attention/advice.

Skin

Remove contaminated clothing. Rinse skin with water/shower. If irritation persists seek medical attention/advice.

Inhalation

Remove patient to fresh air and keep at rest in a comfortable position for breathing. Seek medical attention immediately. Deliberate concentration and inhalation can be harmful or fatal.

Ingestion

If accidentally swallowed seek medical attention immediately. Do not induce vomiting.

Fire

Use CO₂, dry chemical, alcohol-resistant foam

Spills and Leaks

Contain and collect spillage

Storage

Store in dry well ventilated place. Keep tightly sealed. Prevent unauthorized access.

Disposal

Dispose of contents/container in approved waste disposal plant

Hazard not Otherwise Classified (HNOC)

Prolonged or repeated contact may cause skin sensitization or dermatitis. Reports have associated repeated and prolonged occupational overexposure to solvents with irreversible brain and nervous system damage. Intentional misuse by deliberately concentrating or inhaling this product may be harmful or fatal. IARC (International Agency for Research of Cancer) has classified Carbon Black and Titanium Dioxide as a possible human carcinogen (2B).

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS -No	Weight %	Trade Secret
Aromatic Hydrocarbon	64742-95-6	26-36	*
Titanium Dioxide	13463-67-7	32-42	
Rosin Based Resin	68152-57-8	15-25	
Xylene	1330-20-7	1-5	*
1,2,4 Trimethyl Benzene	95-63-6	1-5	

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of necessary first-aid measures

General Advice	In case of doubt, or when symptoms persist, seek medical attention. Do not leave victim unattended.
Eye Contact	Immediately flush eyes with plenty of water for at least fifteen (15) minutes. Remove contact lenses. Get medical attention immediately.
Skin Contact	Flush skin with plenty of water. Remove contaminated clothing. Wash skin thoroughly with soap and water or use a proprietary skin cleanser.
Inhalation:	Remove to fresh air, keep patient warm and at rest. If breathing is irregular seek medical advice. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Seek medical attention immediately.
Ingestion	Seek medical attention immediately. Do not induce vomiting. Never give anything by mouth to an unconscious person.

Protection of First Aiders Use personal protection equipment.

Most important symptoms/effects, acute and delayed

Most important symptoms/effects Drowsiness, blurred vision if concentrated and inhaled.

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

Note to physician Treat symptomatically

5. FIRE-FIGHTING MEASURES

FLASH POINT: 108°F (TCC) ASTM D56 Note: Minimum

FLAMMABLE LIMITS: LEL 0.9 UEL 6.0 @ 77°F Note: Approximate

Suitable Extinguishing Media

Dry chemical, carbon dioxide, alcohol resistant foam. For large fires, use foam. Shut off flow and allow to burn out.

Unsuitable extinguishing media High volume water jet

Specific Hazards arising from the chemical Vapors explosive if collected. Vapors are heavier than air and may travel along ground, or be moved by ventilation and be ignited by ignition source. Do not allow run off from fire-fighting to run into drains or water courses. If run-off occurs, notify proper authorities.

Protective Equipment and Precautions for Firefighters

Wear appropriate self-contained breathing apparatus MSHA/NIOSH (approved or equivalent) and full protective gear. Cool closed containers exposed to fire with water spray. Avoid inhalation of material or combustion by-products; stay upwind.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions Avoid breathing vapors. Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment.

Environmental Precautions Avoid release into the environment. Do not allow to enter drains or watercourses. If the product contaminates rivers, lakes or drains, inform respective authorities.

Methods and materials for containment and cleaning up

Methods for Containment Prevent further leakage or spillage if safe to do so.

Methods for Cleaning Up Contain the spillage with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth to soak up the product and place in a suitable container for disposal in accordance with the waste regulations

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Avoid skin and eye contact. Avoid the inhalation of vapor and mist. Keep away from open flame and sources of ignition.

Conditions for safe storage, including any incompatibilities

Storage Keep away for open flame, hot surfaces and sources of ignition. Keep containers tightly closed. Observe label precautions. Store between 5-25° C in a dry, well ventilated place. Prevent unauthorized access.

Information on this Material Safety Data Sheets refers to ink used in pens and markers; however, it applies to these inks in bulk. The inks are contained in capillary or valve reservoirs and will not spill or leak under normal conditions

Incompatible products Strong oxidizing and reducing agents, strong alkalis and strong acids.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits

Ingredient	CAS No.	OSHA PEL	ACGIH-TLV	Recommended
Aromatic Hydrocarbon	64742-95-6	TWA 100 ppm	TWA 100 ppm	No Data
Titanium Dioxide	13463-67-7	TWA 10mg/m3	TWA 10mg/m3	Nuisance dust
Rosin Based Resin	68152-57-8	TWA 15mg/m3	TWA 10mg/m3	Nuisance dust

Xylene	1330-20-7	TWA 100 ppm	TWA 100 ppm	No Data
1,2,4,Trimethyl Benzene	95-63-6	TWA 100 ppm	TWA 100 ppm	No Data

Appropriate engineering controls

Engineering Measures Showers, eyewash stations, ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face protection None under normal use conditions. Avoid eye contact. Wear chemical splash goggles in compliance with OSHA regulation if splashing is possible

Skin and body Protection None under normal use conditions. Avoid repeated or prolonged contact with skin. Wear impervious gloves if needed to prevent possible skin irritation.

Respiratory Protection None under normal use conditions. Use with adequate ventilation. If irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn

Hygiene Measures Use in a well-ventilated area. When using do not eat, drink, or smoke. Provide regular cleaning of equipment, work areas and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<u>Property</u>	<u>Value</u>
Boiling Point:	318-338°F
Specific Gravity (H2O = 1)	0.87@60°F
Vapor Pressure:	2.09@68°F
Melting Point:	7°F
Vapor Density (Air=1)	>1
Evaporation (BA=1)	0.3
Solubility in Water:	0.02@77°F
Appearance and Order:	Viscous liquid
Order	Aromatic odor
VOC:	35%, 335.51 g/L

10. STABILITY AND REACTIVITY

Reactivity	No data available
Chemical Stability	Stable under normal storage and handling conditions
Possibility of Hazardous reactions	None under normal use
Hazardous Polymerization	Will not occur
Conditions to Avoid	Heat, open flame, sparks, and sources of ignition
Incompatible Materials	Strong oxidizing and reducing agents, strong alkalis and strong acids
Hazardous Decomposition Products	No decomposition if stored and applied as directed.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information There is no data available on the product itself.

12. ECOLOGICAL INFORMATION

Ecotoxicity There is no data available on the product itself

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Dispose of in accordance with all applicable local, state and federal regulations. Do not allow to enter into drains, water courses or the soil.

Contaminated Packaging Do not re-use empty containers.

14. TRANSPORT INFORMATION

Packing Group

: III

Label Codes : 3

EmS-No. (Fire) : F-E

EmS-No. (Spillage) : S-E



14.1 In Accordance with IATA

Proper Shipping Name : CONSUMER COMMODITY

Identification Number : ID8000

Hazard Class : 9

Label Codes : 9

ERG Code (IATA) : 9L



14.2 In Accordance with TDG

Proper Shipping Name : CONSUMER COMMODITY

Hazard Class : 9

Identification Number : ID8000

Label Codes : 9



15. Regulatory Information

U.S. Federal Regulations

TSCA: Ingredients in this product are listed on the TSCA inventory as a UVCB (Unknown, Variable Composition or Biological) Chemical at CAS Registry Number 64742-95-6.

Clean Water Act/Oil Pollution Act:

Ingredients in this product are classified as an oil under Section 311 of the Clean Water Act (40 CFR 110) and the Oil Pollution Act of 1990.

CERCLA: Ingredients in this product as sold are derived from a fraction of crude oil and are excluded from spill reporting requirements by CERCLA Section 101 (14) (F).

SARA Title III:

Sec. 302/304: None

Sec. 311/312: Delayed Health, Fire

Sec 313: 1,2,4-Trimethylbenzene 95-63-6 32.0%

Xylene 1330-20-7 3.0%

Cumene 98-82-8 1.5%

California Prop 65: This product contains the following chemicals known to the State of California to cause cancer: Ethylbenzene

Canada This product has been classified in accordance with the hazard criteria of the *Controlled Products Regulations* and the SDS contains all the information required by the *Controlled Products*

Regulations.

WHMIS Classification: Not Controlled.

NSNR Status (New Substance) All ingredients in the product are listed, as required, on Canada's Domestic

Notifications Regulations: Substances List (DSL).

NPRI Substances (National

Pollutant Release Inventory): Xylene, 1,2,4-Trimethylbenzene

Risk Phrases: None

Safety Phrases: S2: Keep out of reach of children.

OTHERS

This product does not contain chemicals known to deplete the ozone layer.

16. OTHER INFORMATION

Health Hazard 1

Flammability 2

Reactivity 0

Personal Protection B

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End of Safety Data Sheet