

MATERIAL SAFETY DATA SHEET

For Chemicals, Coatings and Related Materials
"Essentially similar" to form OSHA-20

REVISED 7/7/06

MANUFACTURER

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SECTION I - PRODUCT INFORMATION

PRODUCT NAME: UNISOL® Liquid Orange DRHF
DESCRIPTION: Orange dye concentrate
CLASS: Liquid

H M I S HAZARD CODES

Health: 1 (Slight)
Flammability: 1 (Slight)
Reactivity: 0 (Minimal)
Personal Protective Equipment: B

SECTION II - INGREDIENTS

| INGREDIENT MATERIAL DESCRIPTION | PERCENT* BY WEIGHT | C.A.S. REGISTRY NO. | VAPOR PRESSURE LEL mmHg @ 100F | |
|------------------------------------|-----------------------|------------------------|-----------------------------------|-----|
| Petroleum Hydrocarbon | 48.0 | 64742-94-5 | 1.8 | 1.6 |
| Naphthalene | 0.4%Max | 91-20-3 | N/A | N/A |
| Colorant | 52.0 | Proprietary | N/A | N/A |

*Percentages are approximate and DO NOT constitute a specification
This product is not hazardous as defined in 29 CFR1910.1200

SECTION III - PHYSICAL DATA

BOILING RANGE: N/A
VAPOR PRESSURE: Below 0.1 @ 100F
SPECIFIC GRAVITY: 1.0 - 1.1
EVAPORATION RATE: Negligible (relative to n-butyl acetate)
APPEARANCE AND ODOR: Dk. orange, odorless liquid
N-OCTANOL/WATER PARTITION COEFFICIENT: Log P_{ow} expected to be greater than 4

FREEZING POINT: < 10F
VAPOR DENSITY: 4.7
H₂O SOLUBILITY: Insoluble
% VOLATILE BY VOLUME: Zero
POUR POINT ASTM D97: <-40°F

SECTION IV - FIRE AND EXPLOSION DATA

FLASH POINT: >200 F EXPLOSIVE LIMITS: LEL UEL(% V IN AIR)
METHOD USED: Pensky-Martin ASTM D93 1.8% 11.8%

FLAMMABILITY CLASSIFICATION:

OSHA: Non-Combustible
DOT: Non-Combustible Liquid. Not Regulated

EXTINGUISHING MEDIA: Use water spray to cool fire exposed surfaces and to protect personnel. Isolate "fuel" supply from fire. Use foam, dry chemical or water spray to extinguish fire. Avoid spraying water directly into storage containers due to danger of boiling over.

SPECIAL FIRE FIGHTING PROCEDURES: Wear NIOSH-MSHA approved self-contained breathing apparatus. Wear impervious clothing. Use water spray to cool and protect exposed material or overheated containers. Take care not to spread fire with water.

SECTION V - TOXICOLOGICAL INFORMATION

See Section VI – No additional information is available

SECTION VI - HEALTH HAZARD DATA**EFFECTS OF OVEREXPOSURE:**

PRIMARY ROUTE(S) OF EXPOSURE/ENTRY: Eye contact, skin contact, inhalation, ingestion.

| | |
|-----------------|--|
| EYES | Vapors may irritate the eyes. Liquid is irritating and potentially damaging to the eyes. |
| SKIN | Liquid may irritate and dry the skin. Prolonged contact may lead to burns and blisters and may aggravate dermatitis. |
| INHALATION | Vapors may irritate the respiratory tract. May lead to headache, dizziness, nausea, vomiting and unconsciousness. High vapor concentrations are anesthetic and may have other central nervous system effects including death. |
| INGESTION | May lead to headache, dizziness, nausea and abdominal pain. |
| CHRONIC EFFECTS | This product contains naphthalene. The International Agency for Research on Cancer evaluated naphthalene and concluded that there was sufficient evidence for carcinogenicity in experimental animals, but inadequate evidence for cancer in exposed humans. Accordingly, IARC classified naphthalene as a possible human Carcinogen (Group 2B). |

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SECTION VI - HEALTH HAZARD DATA (CON'T)

ECOLOGICAL INFORMATION Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products.

MOBILITY Liquid under most environmental conditions. Floats on water. If it enters soil, it will absorb to soil particles and will not be mobile.

DEGRADABILITY Not established

BIOACCUMULATION Has the potential to bioaccumulate

ECOTOXICITY Not established. Insoluble in water.

SECTION VII - EMERGENCY AND FIRST AID PROCEDURES

EYE CONTACT: Immediately flush with large amounts of water for 10-15 minutes. SEEK PROMPT MEDICAL ATTENTION !!!

SKIN CONTACT: Promptly remove all contaminated clothing, shower if necessary. Remove from skin with proprietary water less hand cleaner or cold cream. Discard contaminated clothing and shoes.

INHALATION: If dizzy, drowsy or overcome, remove to fresh air. If breathing has stopped, apply artificial respiration. GET MEDICAL ATTENTION AS SOON AS POSSIBLE !!!

INGESTION: DO NOT INDUCE VOMITING!! GET MEDICAL ATTENTION IMMEDIATELY!!

SECTION VIII - REACTIVITY DATA

| | |
|--|--|
| STABILITY: | Stable |
| CONDITIONS TO AVOID: | Extreme heat, open flames or sparks |
| INCOMPATIBILITY (MATERIALS TO AVOID): | Strong oxidizing agents, strong reducing agents, Acids |
| HAZARDOUS DECOMPOSITION PRODUCTS: | Oxides of Carbon, Oxides of Nitrogen |
| HAZARDOUS POLYMERIZATION: | Will not occur |
| POLYMERIZATION CONDITIONS TO AVOID: | Material not known to polymerize |

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SECTION IX - REGULATORY INFORMATION

This MSDS is in compliance with the OSHA Hazard Communication Standard 29CFR1910.1200. This MSDS has also been prepared to be in compliance with the Commonwealth of Pennsylvania's Right-to-Know regulations for chemical manufacturers and should satisfy many other state Right-to-Know laws.

The chemical ingredient reporting rules for Pennsylvania are more detailed than OSHA regulations and this MSDS lists the common chemical name and CAS number in Section II for:

| | | |
|-----------------------------------|--------|--------------------------|
| Specifically hazardous ingredient | >0.01% | (OSHA is >0.1%) |
| Hazardous ingredient | >1.0% | (OSHA is the same) |
| Nonhazardous ingredient | >3.0% | (OSHA does not regulate) |

PROPRIETARY entered in the CAS number column declares that the exact identity of the ingredient(s) listed is proprietary information to United Color Manufacturing, Inc. and/or to our suppliers. Percentages of ingredients are approximate values for the purpose of hazard and SARA determination by the product's uses and are not necessarily exact specifications.

| | |
|---------------------------|---|
| DOT Shipping Description: | Not Regulated |
| SARA TITLE II: | This product does not contain any Section 313 reportable Ingredients. |
| TSCA: | All components are in compliance with TSCA Inventory |
| EINECS: | All components in compliance. |
| DSL: | All components registered. Classified as D2B under WHMIS. |
| EC CLASSIFICATION: | This product contains no hazardous materials. Classified as non-combustible under EC criteria as per DOT Regulations in SECTION IV. |
| CERCLA: | If this product is accidentally spilled, the incident is not subject to the provisions of the Comprehensive Environmental Response Compensation And Liability Act (CERCLA). |

SECTION X - SPILL OR LEAK PROCEDURES

STEPS FOR MATERIAL SPILLAGE: Remove all sources of ignition (flame, hot surfaces and any producers of electrical, static or frictional sparks). Wear appropriate protective clothing (See Section XI). Ventilate area and try to contain spill by diking with sand or other absorbent material. Collect spill for disposal by scooping up liquids (if a large spill) and absorbing with sand or other approved absorbent materials and dispose of in accordance with local, state and federal regulations.

WASTE DISPOSAL METHODS: Dispose of in accordance with local, state and federal regulations.

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SECTION XI - SPECIAL PROTECTION INFORMATION

- RESPIRATORY PROTECTION: OSHA/NIOSH approved self-contained breathing apparatus or vapor cartridge respirator. (Must be worn if PEL & TLV levels are exceeded)
- VENTILATION: Provide adequate cross air ventilation to keep dust and/or vapor levels below the PEL & TLV values. (See: Section V)
- PROTECTIVE GLOVES: Impervious gloves (rubber or neoprene) to avoid direct skin contact.
- EYE PROTECTION: Splash proof safety goggles
- OTHER PROTECTIVE EQUIPMENT: Eyewash station, emergency shower.

SECTION XII - SPECIAL PRECAUTIONS

HANDLING AND SPECIAL PRECAUTIONS:

Overheating may cause container to rupture. Use explosion-proof electrical equipment
Container must be kept closed and ventilation provided to prevent vapor concentration buildup.
Store in a cool, dry place. Do not breathe vapor or get liquid in eyes or on skin or clothing.
Keep away from heat or sources of ignition.

OTHER PRECAUTIONS:

Check all containers for leaks. Wear protective clothing as in Section XI. Avoid prolonged breathing of vapors or contact with skin. Ensure that all equipment is grounded to prevent static discharge. Containers of this material may be hazardous when emptied due to solid or vapor residue. All hazard precautions given in this data sheet must be observed for empty containers.

SECTION XIII - CONTACT INFORMATION

TECHNICAL CONTACT PERSON: Dr. Michael P. Hinton

TECHNICAL CONTACT NUMBER: Telephone 215-860-2165
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