

MATERIAL SAFETY DATA SHEET

MSDS NO. 4

June 21, 2001



URETHANE CATALYST (ISOCYANATES)

SECTION I - MANUFACTURER

Manufacturer:

House of Kolor
210 Crosby Street
Picayune, Mississippi 39466

Telephone:

Medical Emergency (888) 345-5732
Transportation Emergency (888) 748-5558
Product Information (601) 798-4731

Prepared by: Tim Herrington

Product: Urethane Catalyst (Isocyanates)

OSHA Hazard Class: Flammable Liquid

DOT Shipping Name: Paint Additives, UN1263

Hazardous Material Information: See Section X

SECTION II - HAZARDOUS INGREDIENTS

(See SECTION X)

Ingredients	CAS No.	Vapor Pressure (20°C. mm Hg)	Exposure Limit (TLV)
1. 1,6-hexamethylene diisocyanate based polyisocyanate	822-06-0	7.5	0.005 ppm-O 1 mg/m ³ -O
2. Acetic acid ester	90438-79-2	0.8	None-A, O 50 ppm-V
3. Aromatic hydrocarbon A	64742-95-6	10.0	25 ppm-A, O as Trimethyl benzene
4. Ethyl 3-ethoxypropionate	763-69-9	1.5 @ 25°C	None-A, O 50 ppm-V
5. Ethylbenzene*	100-41-4	8.5	100 ppm-A, O
6. HMDI polyisocyanates	3779-63-3	None	0.035 mg/m ³ -A
7. Homopolymer of hexamethylene diisocyanate	28182-81-2	Unknown	0.5 mg/m ³ -S 1 mg/m ³ -S 15 min (STEL) None-A, O
8. Isophorone diisocyanate based polyisocyanate	4098-71-9	5.2 @ 20°C	100 ppm-A, O 50 ppm-Aromatic petroleum solvent 0.005 ppm-Skin-Isophorone diisocyanate

* = See Section V - Special effects

Ingredients	CAS No.	Vapor Pressure (20°C. mm Hg)	Exposure Limit (TLV)
9. Methyl isobutyl ketone	108-10-1	15.0	50 ppm-A 100 ppm-O 75 ppm-A 15 min (STEL)
10. Methyl n-amyl ketone	110-43-0	2.1	50 ppm-A 100 ppm-O
11. N-butyl acetate	123-86-4	8.4	150 ppm-A, O 200 ppm-A, O 15 min (STEL)
12. Oxo-hexyl acetate	88-230-35-7	1.6	50 ppm-V
13. PCBTF (Parachlorobenzotrifluoride)	98-56-6	5.3	None-A, O
14. Toluene [65]	108-88-3	36.7	100 ppm-A 200 ppm-O 300 ppm-O Ceiling
15. Xylene	1330-20-7	25.0 @ 25°C	100 ppm-A, O 150 ppm-A, O 15 min (STEL)

A = ACGIH TLV; O = OSHA; S = Supplier furnished limit; STEL = Short term exposure limit; C = Ceiling; V = Valspar limit, TLV = Threshold Limit Value

* = See Section V - Special effects

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: 165 TO 398°F

SPECIFIC GRAVITY: (H₂O=1): 0.97 – 1.05

VAPOR DENSITY: Heavy Than Air

EVAPORATION RATE: Slower Than Ether

COATING V.O.C.: 1.91 – 4.66 lb/gal

MATERIAL V.O.C.: 1.91 – 4.66 lb/gal

SOLUBILITY IN WATER: 9.0%

APPEARANCE AND ODOR: Clear/pale yellow liquid with a characteristic odor.

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: See Section X

METHOD USED: T.C.C.

FLAMMABLE LIMITS IN AIR BY VOLUME:

LOWER EXPLOSIVE LIMIT (LEL): 1.0%

UPPER EXPLOSIVE LIMIT (UEL): 13.1%

EXTINGUISHED MEDIA: Foam, CO₂, or Dry Chemical

SPECIAL FIREFIGHTING PROCEDURES:

Cool fire exposed containers with water. Do not enter confined fire space without proper protective equipment – including a NIOSH approved self-contained breathing apparatus.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Material is highly volatile and readily gives off vapors which may travel along the ground or be moved by ventilation and ignite by pilot lights over flames, sparks, static discharge, or other ignition sources at locations distant from the material handling point. Never use a welding or cutting torch near this material.

SECTION V - PHYSICAL/CHEMICAL CHARACTERISTICS

INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Overexposure can lead to central nervous system depression producing such effects as headache, dizziness, nausea, and loss of consciousness.

SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Can cause defatting and drying of skin resulting in irritation and dermatitis. Irritating to eyes. Irritating to mucous membranes.

SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE:

Can be absorbed through the skin causing effects similar to inhalation and ingestion.

INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE: Liquid ingesting may result in vomiting. Aspiration of liquid into the lungs must be avoided as liquid contact with the lungs can result in chemical pneumonitis and pulmonary edema/hemorrhage.

HEALTH HAZARDS (ACUTE AND CHRONIC):

ACUTE: Headache, dizziness, nausea, dermatitis, eye irritation. Vapor and skin exposure can cause injury to the liver, kidneys, blood, and lungs. **CHRONIC:** Narcosis, kidney, and liver dysfunction with possible central nervous system effects.

CARCINOGENICITY:

NTP CARCINOGEN? No

IARC MONOGRAPHS? No

OSHA REGULATED? No

Except for ethylbenzene*

CALIFORNIA PROPOSITION 65 STATEMENT: Check Section II of this MSDS for hazardous ingredients whose name contains the character [65]. These ingredients are listed or have trace components that are listed in California Prop 65 lists.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Allergies, respiratory problems, asthma, and dermatitis.

EMERGENCY AND FIRST AID PROCEDURES:

FOR EYES: Flush with plenty of clean flowing water for at least 15 minutes and get medical attention.

FOR SKIN: Wash affected areas with plenty of warm soapy water. Remove contaminated clothing and shoes. If irritation persists, get medical attention.

INHALATION: Move victim to fresh air. Provide oxygen if breathing is difficult. Give artificial respiration if not breathing. Get medical attention.

INGESTION: Consult a physician immediately. Product contains both naphthas and oxygenated solvents. See section II.

SPECIAL EFFECTS:

Aromatic hydrocarbon A - Laboratory studies with rats have shown that petroleum distillates cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors. **Ethylbenzene** - Tests by the NTP have shown that ethylbenzene is a carcinogen in animals. The relevance to humans is unknown. **N-butyl acetate** - May cause abnormal liver function. Tests for embryotoxic activity in animals has been inconclusive. Has been toxic to the fetus in laboratory animals at doses that are toxic to the mother. **Toluene** - Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heartbeats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown.

Warning: This chemical is known to the State of California to cause reproductive harm. **Xylene** - High concentrations have caused embryotoxic effects in laboratory animals. Recurrent overexposure may result in liver and kidney injury. Can be absorbed through the skin in harmful amounts.

SECTION VI - REACTIVITY DATA

STABILITY: Stable

CONDITIONS TO AVOID: Keep away from excessive heat or open flame. Store below maximum storage temperature.

INCOMPATIBILITY (MATERIALS TO AVOID): Avoid strong alkalis. Oxidizing materials can cause a reaction.

HAZARDOUS DECOMPOSITION OR BY PRODUCTS: Carbon dioxide, carbon monoxide, and unidentified organics.

HAZARDOUS POLYMERIZATION: Will not occur

SECTION VII - PRECAUTIONS FOR SAFE HANDLING

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED:

Eliminate potential sources of ignition. Wear respirator and other protective clothing. For large spills dike and contain. Soak up residue with non-combustible absorbent. Keep out of surface waterways and sewers. Flush area with water to remove trace residue.

WASTE DISPOSAL METHOD: Remove with vacuum truck into storage/salvage vessel. Keep out of surface waters and any watercourses or sewers entering or leading to surface water. Dispose of in an appropriate facility in compliance with local regulations.

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING: Keep container closed. Do not store near heat, sparks, flame, or oxidizing materials. Vapors are heavier than air and will collect in low places. Ground all containers when transferring liquid. Use non-sparking tools. Wash thoroughly after handling and before eating or smoking. Do not store above 120 degrees F. Observe label precautions.

OTHER CAUTIONS: Avoid breathing sanding dust. Prevent prolonged or repeated breathing of vapor or spray mist. Store only in well ventilated areas.

SECTION VIII - CONTROL MEASURES

RESPIRATORY PROTECTION: Use NIOSH approved respirator if chance of overexposure. Use MSHA/NIOSH TC19C for spray booth spraying or confined area. Use MSHA/NIOSH TC23C for outdoor spraying or well-ventilated areas.

VENTILATION: Use explosion proof ventilation to maintain vapor concentrations below the TLV. See section II.

PROTECTIVE GLOVES: Wear protective gloves to minimized skin contact.

EYE PROTECTION: Wear safety glasses with side shields, goggles, face shield, or other protective eyewear to avoid eye contact.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Wear protective clothing to minimize skin contact.

WORK/HYGIENIC PRACTICES: Keep respirators in proper working condition. Follow general industrial hygienic practices.

SECTION IX - DISCLAIMER

DISCLAIMER: The recommendations provided herein are based on information believed to be accurate. None of the information stated is to be construed as any warranty. These products are intended for industry use only and should be used by professionals who have carefully evaluated this product.

SECTION X - OTHER INFORMATION

Section 313 Supplier Notification: The chemicals listed below with percentages are subject to the reporting requirements of Section 313 of the Emergency Planning and Right-To-Know Act of 1986 and of 40 CFR 372.

PRODUCT CODE	INGREDIENTS (See Section II)
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KU-100	Homopolymer of hexamethylene diisocyanate, Methyl isobutyl ketone (18.1%), Oxo-hexyl acetate, Xylene (13.7%), Ethylbenzene* (2.9%), Aromatic hydrocarbon A, N-butyl acetate, Toluene (0.4%) [65], GAL WT: 8.02 WT PCT SOLIDS: 44.51 VOL. PCT SOLIDS: 36.54 VOC: 4.45 LB/GL H: 3 F: 3 R: 0 FLASH POINT: 64°F
KU-150	PCBTF, Homopolymer of hexamethylene diisocyanate, GAL WT: 10.65 WT PCT SOLIDS: 33.47 VOL. PCT SOLIDS: 36.75 VOC: 0.00 LB/GL H: 3 F: 3 R: 0 FLASH POINT: 109°F
KU-190	PCBTF, Homopolymer of hexamethylene diisocyanate, GAL

* = See Section V - Special effects

WT: 10.48 WT PCT SOLIDS: 44.43 VOL. PCT SOLIDS: 48.00 VOC:
0.00 LB/GL H: 3 F: 3 R: 0 FLASH POINT: 109°F

KU-200 - Homopolymer of hexamethylene diisocyanate, 1,6-hexamethylene diisocyanate based polyisocyanate, HMDI polyisocyanates, Acetic acid ester, Xylene (14.4%), N-butyl acetate, Aromatic hydrocarbon A, Ethylbenzene* (2.5%), Toluene (0.4%) [65], GAL WT: 8.47 WT PCT SOLIDS: 56.43 VOL. PCT SOLIDS: 48.97 VOC: 3.69 LB/GL H: 3 F: 3 R: 0 FLASH POINT: 80°F

KU-400 - Homopolymer of hexamethylene diisocyanate, 1,6-hexamethylene diisocyanate based polyisocyanates, HMDI polyisocyanates, Isophorone diisocyanate based polyisocyanate (19.0%), Ethyl 3-ethoxypropionate, Methyl isobutyl ketone (10.8%), N-butyl acetate, GAL WT: 8.67 WT PCT SOLIDS: 67.78 VOL. PCT SOLIDS: 61.58 VOC: 2.79 LB/GL H: 2 F: 3 R: 0 FLASH POINT: 64°F

KU-500 - Homopolymer of hexamethylene diisocyanate, 1,6-hexamethylene diisocyanate based polyisocyanates, HMDI polyisocyanates, Isophorone diisocyanate based polyisocyanate (13.4%), Methyl isobutyl ketone (17.9%), Ethyl 3-ethoxypropionate, Xylene (12.8%), N-butyl acetate, Ethylbenzene* (2.2%), Toluene (0.3%) [65], GAL WT: 8.10 WT PCT SOLIDS: 45.32 VOL. PCT SOLIDS: 38.44 VOC: 4.43 LB/GL H: 2 F: 3 R: 0 FLASH POINT: 64°F

KU-800 - 1,6-hexamethylene diisocyanate based polyisocyanate, HMDI polyisocyanates, Methyl isobutyl ketone (11.8%), Methyl n-amyl ketone, Xylene (2.2%), Ethylbenzene* (0.4%), GAL WT: 8.80 WT PCT SOLIDS: 81.04 VOL. PCT SOLIDS: 75.09 VOC: 1.67 LB/GL H: 2 F: 3 R: 0 FLASH POINT: 64°F

* = See Section V - Special effects