



GHS SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **CHEMLOK 402X**
Product Use/Class: **ADHESIVE**

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EFFECTIVE DATE: 07/08/2014

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION:

Flammable liquids Category 3
Acute toxicity Oral Category 5
Acute toxicity Dermal Category 5
Acute toxicity Inhalation - Dust and Mist Category 2
Acute toxicity Inhalation - Vapours Category 3
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Skin sensitization Category 1
Respiratory sensitization Category 1
Carcinogenicity Category 2
Reproductive toxicity Category 1B
Specific target organ systemic toxicity (single exposure) Category 3
Specific target organ systemic toxicity (single exposure) Category 3
Specific target organ systemic toxicity (single exposure) Category 1 Central nervous system, Kidney, Liver, Respiratory system
Specific target organ systemic toxicity (repeated exposure) Category 2 Liver, Kidney
Specific target organ systemic toxicity (repeated exposure) Category 1 Respiratory system, Nervous system, Lungs
Hazardous to the aquatic environment - acute hazard Category 2
Hazardous to the aquatic environment - chronic hazard Category 2

GHS LABEL ELEMENTS:

Symbol(s)



Signal Word

DANGER

Hazard Statements

Flammable liquid and vapor.
May be harmful if swallowed.
May be harmful in contact with skin.
Fatal if inhaled.
Toxic if inhaled.
Causes skin irritation.
Causes serious eye irritation.
May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Suspected of causing cancer.
May damage fertility or the unborn child.
May cause drowsiness or dizziness.
May cause respiratory irritation.
Causes damage to organs.(Central nervous system, Kidney, Liver, Respiratory system)
May cause damage to organs through prolonged or repeated exposure.(Liver, Kidney)
Causes damage to organs through prolonged or repeated exposure.(Respiratory system, Nervous system, Lungs)
Toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Ground/Bond container and receiving equipment.
Use explosion-proof electrical/ventilating/lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/protective clothing/eye protection/face protection.
Use personal protective equipment as required.
Wear respiratory protection.
In case of inadequate ventilation wear respiratory protection.
Do not breathe dust/fume/gas/mist/vapors/spray.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Avoid release to the environment.

Response

In case of fire: refer to section 5 of SDS for extinguishing media.
Immediately call a POISON CENTER or doctor/physician.

Specific treatment is urgent (see supplemental first aid instructions on this label).
IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.
Collect spillage.

Storage

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

Disposal:

Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality.

Other Hazards:

This product contains component(s) which have the following warnings; however based on the GHS classification criteria of your country or locale, the product mixture may be outside the respective category(s).

Acute: Vapor harmful; may affect the brain or nervous system causing dizziness, headache or nausea. Possible irritation of the respiratory system can occur causing a variety of symptoms such as dryness of the throat, tightness of the chest, and shortness of breath. May cause central nervous system depression characterized by the following progressive steps: headache, dizziness, staggering gait, confusion, unconsciousness or coma. May cause allergic respiratory reaction. May cause allergic skin reaction. Animal tests have indicated that respiratory sensitization can result from skin contact with certain isocyanates. This product contains a residual amount of a chemical substance that may cause an allergic skin and/or respiratory reaction. Harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

Chronic: Prolonged or repeated contact may result in dermatitis. Repeated or prolonged solvent overexposure may result in permanent central nervous system damage. May cause liver or kidney damage. May affect the gastrointestinal system. May affect the blood and blood-forming organs. IARC has designated carbon black as Group 2B - inadequate evidence for carcinogenicity in humans, but sufficient evidence in experimental animals. May cause long-term lung damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight % Less Than
Xylene	1330-20-7	50.0 %
Ethyl benzene	100-41-4	35.0 %
Aromatic polyisocyanate	PROPRIETARY	5.0 %
Carbon black	1333-86-4	5.0 %
4,4'-Diphenylmethane diisocyanate	101-68-8	5.0 %
2,4-Diphenylmethane diisocyanate	5873-54-1	1.0 %

4. FIRST AID MEASURES

FIRST AID - EYE CONTACT: Flush eyes immediately with large amount of water for at least 15 minutes holding eyelids open while flushing. Get prompt medical attention.

FIRST AID - SKIN CONTACT: Flush contaminated skin with large amounts of water while removing contaminated clothing. Wash affected skin areas with soap and water. Get medical attention if symptoms occur.

FIRST AID - INHALATION: Move person to fresh air. Restore and support continued breathing. If breathing is difficult, give oxygen. Get immediate medical attention.

FIRST AID - INGESTION: If swallowed, do not induce vomiting. Call a physician or poison control center immediately for further instructions. Never give anything by mouth if victim is rapidly losing consciousness, unconscious or convulsing.

5. FIRE-FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA: Carbon Dioxide, Dry Chemical, Foam, Water Fog

UNSUITABLE EXTINGUISHING MEDIA: High volume water jet

SPECIFIC HAZARDS POSSIBLY ARISING FROM THE CHEMICAL: Flammable liquid and vapor. Keep containers tightly closed. Isolate from heat, electrical equipment, sparks, open flame, and other sources of ignition. Closed containers may rupture when exposed to extreme heat. Use water spray to keep fire exposed containers cool. During a fire, irritating and/or toxic gases and particulate may be generated by thermal decomposition or combustion.

SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS: Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA). Water spray may be ineffective. If water is used, fog nozzles are preferable.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES: Remove all sources of ignition (flame, hot surfaces, and electrical, static or frictional sparks). Avoid contact. Avoid breathing vapors. Use self-contained breathing equipment.

ENVIRONMENTAL PRECAUTIONS: Do not contaminate bodies of water, waterways, or ditches, with chemical or used container.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANUP: Keep non-essential personnel a safe distance away from the spill area. Notify appropriate authorities if necessary. Avoid contact. Before attempting cleanup, refer to hazard caution information in other sections of the MSDS form. Contain and remove with inert absorbent material and non-sparking tools.

7. HANDLING AND STORAGE

HANDLING: Keep closure tight and container upright to prevent leakage. Ground and bond containers when transferring material. Avoid skin and eye contact. Wash thoroughly after handling. Avoid breathing of vapor or spray mists. Do not handle until all safety precautions have been read and understood. Empty containers should not be re-used. Use with adequate ventilation. Because empty containers may retain product residue and flammable vapors, keep away from heat, sparks and flame; do not cut, puncture or weld on or near the empty container. Do not smoke where this product is used or stored.

STORAGE: Do not store or use near heat, sparks, or open flame. Refer to OSHA 29CFR Part 1910.106 "Flammable and Combustible Liquids" for specific storage requirements. Store only in well-ventilated areas. Do not puncture, drag, or slide container. Keep container closed when not in use.

INCOMPATIBILITY: Strong oxidizers, acids, bases, water. Amines, acids, water, hydroxyl, or active hydrogen compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMIT

Chemical Name	ACGIH TLV-TWA	ACGIH TLV-STEL	OSHA PEL-TWA	OSHA PEL-CEILING	Skin
Xylene	100 ppm	150 ppm	435 mg/m ³ 100 ppm	N.E.	N.A.
Ethyl benzene	20 ppm	N.E.	435 mg/m ³ 100 ppm	N.E.	N.A.
Aromatic polyisocyanate	N.E.	N.E.	N.E.	N.E.	N.A.
Carbon black	3 mg/m ³	N.E.	3.5 mg/m ³	N.E.	N.A.
4,4'-Diphenylmethane diisocyanate	0.005 ppm	N.E.	N.E.	0.2 mg/m ³ 0.02 ppm	N.A.
2,4-Diphenylmethane diisocyanate	N.E.	N.E.	N.E.	0.2 mg/m ³ 0.02 ppm	N.A.

N.A. - Not Applicable, N.E. - Not Established, S - Skin Designation

Engineering controls: Sufficient ventilation in pattern and volume should be provided in order to maintain air contaminant levels below recommended exposure limits. Caution: Solvent vapors are heavier than air and collect in lower levels of the work area. Sufficient ventilation (using explosion-proof equipment) should be provided to prevent flammable vapor/air mixtures from accumulating.

PERSONAL PROTECTION MEASURES/EQUIPMENT:

RESPIRATORY PROTECTION: Use a NIOSH approved chemical/mechanical filter respirator designed to remove a combination of particulates and organic vapor if occupational limits are exceeded. For emergency situations, confined space use, or other conditions where exposure limits may be greatly exceeded, use an approved air-supplied respirator. Observe OSHA regulations (29CFR 1910.134) for respirator use. This product contains isocyanates which have poor odor warning properties. If occupational exposure limits are exceeded, a NIOSH approved supplied-air respirator is required.

SKIN PROTECTION: Use neoprene, nitrile, or rubber gloves to prevent skin contact.

EYE PROTECTION: Use safety eyewear including safety glasses with side shields and chemical goggles where splashing may occur.

OTHER PROTECTIVE EQUIPMENT: Use disposable or impervious clothing if work clothing contamination is likely. Remove and wash contaminated clothing before reuse.

HYGIENIC PRACTICES: Wash hands before eating, smoking, or using toilet facility. Do not smoke in any chemical handling or storage area. Food or beverages should not be consumed anywhere this product is handled or stored. Wash thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Typical values, not to be used for specification purposes.

ODOR:	Solvent	VAPOR PRESSURE:	N.D.
APPEARANCE:	Black	VAPOR DENSITY:	Heavier than Air
PHYSICAL STATE:	Liquid	LOWER EXPLOSIVE LIMIT:	1 %(V)
FLASH POINT:	77 °F, 25 °C	UPPER EXPLOSIVE LIMIT:	7 %(V)

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BOILING RANGE:	136 - 141 °C	EVAPORATION RATE:	Slower than n-butyl-acetate
AUTOIGNITION TEMPERATURE:	N.D.	DENSITY:	0.93 g/cm ³
DECOMPOSITION TEMPERATURE:	N.D.	VISCOSITY, DYNAMIC:	≥200 mPa.s @
ODOR THRESHOLD:	N.D.	VISCOSITY, KINEMATIC:	≥215 mm ² /s @ 25 °C
SOLUBILITY IN H₂O:	Insoluble	VOLATILE BY WEIGHT:	80.09 %
pH:	N.A.	VOLATILE BY VOLUME:	85.83 %
FREEZE POINT:	N.D.	VOC CALCULATED:	6.08 lb/gal, 729 g/l
COEFFICIENT OF WATER/OIL DISTRIBUTION:	N.D.		

LEGEND: N.A. - Not Applicable, N.E. - Not Established, N.D. - Not Determined

10. STABILITY AND REACTIVITY

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur under normal conditions.

STABILITY: Product is stable under normal storage conditions.

CONDITIONS TO AVOID: High temperatures. Sources of ignition.

INCOMPATIBILITY: Strong oxidizers, acids, bases, water.; Amines, acids, water, hydroxyl, or active hydrogen compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide, carbon monoxide, chlorine, hydrogen chloride, Phosgene, Monomeric isocyanate, traces of hydrogen cyanide, nitrogen dioxide, Decomposition due to high temperatures or a fire causes the formation of irritating and/or toxic gases, organic vapors or fumes, Oxides of nitrogen

11. TOXICOLOGICAL INFORMATION

EXPOSURE PATH: Refer to section 2 of this SDS.

SYMPTOMS: Refer to section 2 of this SDS.

TOXICITY MEASURES:

Chemical Name	LD50/LC50
Xylene	Oral LD50: Rat 4,300 mg/kg Dermal LD50: Rabbit > 1,700 mg/kg Inhalation LC50: Rat 47,635 mg/l /4 h
Ethyl benzene	Oral LD50: Rat 3,500 mg/kg Dermal LD50: Rabbit 15,354 mg/kg Inhalation LC50: Rat 17.2 mg/l /4 h
Aromatic polyisocyanate	Oral LD50: Rat 49 g/kg Dermal LD50: Rabbit > 9,400 mg/kg Inhalation LC50: Rat 490 mg/m ³ /4 h
Carbon black	Oral LD50: Rat > 15,400 mg/kg Dermal LD50: Rabbit > 3 g/kg GHS LC50 (vapour): rat 55 mg/l /
4,4'-Diphenylmethane diisocyanate	Oral LD50: Rat 9,200 mg/kg Dermal LD50: rabbit > 5,000 mg/kg

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	Inhalation LC50: rat 0.49 mg/l /4 h Inhalation LC50: Rat 369 mg/m3 /4 h
2,4-Diphenylmethane diisocyanate	N.D.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

<u>Chemical Name</u>	<u>Ecotoxicity</u>
Xylene	<u>Fish:</u> Pimephales promelas 13.4 mg/196 h flow-through Oncorhynchus mykiss 2.661 - 4.093 mg/196 h Static Oncorhynchus mykiss 13.5 - 17.3 mg/196 h Lepomis macrochirus 13.1 - 16.5 mg/196 h flow-through Lepomis macrochirus 19 mg/196 h Lepomis macrochirus 7.711 - 9.591 mg/196 h Static Pimephales promelas 23.53 - 29.97 mg/196 h Static Cyprinus carpio 780 mg/196 h semi-static Cyprinus carpio > 780 mg/196 h Poecilia reticulata 30.26 - 40.75 mg/196 h Static <u>Invertebrates:</u> water flea 3.82 mg/148 h Gammarus lacustris 0.6 mg/148 h
Ethyl benzene	<u>Fish:</u> Oncorhynchus mykiss 11.0 - 18.0 mg/196 h Static Oncorhynchus mykiss 4.2 mg/196 h semi-static Pimephales promelas 7.55 - 11 mg/196 h flow-through Lepomis macrochirus 32 mg/196 h Static Pimephales promelas 9.1 - 15.6 mg/196 h Static Poecilia reticulata 9.6 mg/196 h Static <u>Invertebrates:</u> Daphnia magna 1.8 - 2.4 mg/148 h <u>Plants:</u> Pseudokirchneriella subcapitata 4.6 mg/172 h Pseudokirchneriella subcapitata > 438 mg/196 h Pseudokirchneriella subcapitata 2.6 - 11.3 mg/172 h Static Pseudokirchneriella subcapitata 1.7 - 7.6 mg/196 h Static
Aromatic polyisocyanate	N.D.
Carbon black	N.D.
4,4'-Diphenylmethane diisocyanate	<u>Fish:</u> Species > 1,000 mg/196 h <u>Invertebrates:</u> Daphnia magna > 1,000 mg/148 h
2,4-Diphenylmethane diisocyanate	N.D.

PERSISTENCE AND DEGRADABILITY: Not determined for this product.

BIOACCUMULATIVE: Not determined for this product.

MOBILITY IN SOIL: Not determined for this product.

OTHER ADVERSE EFFECTS: Not determined for this product.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose of contents/container in accordance with waste/disposal laws and regulations of your country or particular locality.

14. TRANSPORT INFORMATION

IATA Cargo

PROPER SHIPPING NAME: Adhesives
DOT HAZARD CLASS: 3
HAZARD CLASS: None
UN-NUMBER: 1133
PACKING GROUP: III
EMS: 3L

IMDG

PROPER SHIPPING NAME: Adhesives
DOT HAZARD CLASS: 3
HAZARD CLASS: None
UN-NUMBER: 1133
PACKING GROUP: III
EMS: F-E

The listed transportation classification applies to IATA Cargo and IMDG non-bulk shipments. It does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors for your country or particular locality. For the most accurate shipping information, refer to your transportation/compliance department.

15. REGULATORY INFORMATION

INVENTORIES

Australia Inventory of Existing Chemical Substances (AICS)	YES
Chinese Inventory of Existing Chemical Substances (IECSC)	YES
Japan Existing and New Chemical Substances (ENCS)	YES
Korean Inventory of Existing and Evaluated Chemical Substances (KECI)	YES
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	YES
US Toxic Substances Control Act (TSCA)	YES

16. OTHER INFORMATION

HMIS RATINGS - HEALTH: **FLAMMABILITY:** **PHYSICAL HAZARD:**

* - Indicates a chronic hazard; see Section 3

Revision: Section 1

Effective Date: 07/08/2014

DISCLAIMER

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