

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product name: **FLOCKLOK 855**
Product Use/Class: **Flock Adhesive**

LORD Corporation
111 LORD Drive
Cary, NC 27511-7923

Telephone: 814 868-3180
Non-Transportation Emergency: 814 763-2345
Chemtrec 24 Hr Transportation Emergency No.
800 424-9300 (Outside Continental U.S. 703 527-3887)

EFFECTIVE DATE: 04/10/2015

2. HAZARDS IDENTIFICATION**GHS CLASSIFICATION:**

Flammable liquids Category 2
Acute toxicity Inhalation - Dust and Mist Category 4 - 60.0% of the mixture consists of ingredient(s) of unknown toxicity.
Acute toxicity Inhalation - Vapours Category 4 - 60.0% of the mixture consists of ingredient(s) of unknown toxicity.
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 2
Specific target organ systemic toxicity (single exposure) Category 1 Central nervous system, Kidney, Liver, Respiratory system
Specific target organ systemic toxicity (single exposure) Category 3
Specific target organ systemic toxicity (repeated exposure) Category 2 Ears, Liver, Blood
Specific target organ systemic toxicity (repeated exposure) Category 1 Respiratory system, Nervous system, Body, Central nervous system, Kidney
Hazardous to the aquatic environment - acute hazard Category 2
Hazardous to the aquatic environment - chronic hazard Category 3

GHS LABEL ELEMENTS:**Symbol(s)****Signal Word**

DANGER

Hazard Statements

Highly flammable liquid and vapor.
Harmful 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.
Suspected of damaging fertility or the unborn child.
May cause harm to breast-fed children.

Causes damage to organs.(Central nervous system, Kidney, Liver, Respiratory system)
May cause drowsiness or dizziness.
May cause respiratory irritation.
May cause damage to organs through prolonged or repeated exposure.(Ears, Liver, Blood)
Causes damage to organs through prolonged or repeated exposure.(Respiratory system, Nervous system, Body, Central nervous system, Kidney)
Toxic to aquatic life.
Harmful 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.
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.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed: Call a POISON CENTER or doctor/physician.
Specific treatment (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 experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
If skin irritation or rash occurs: Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing.

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. In elevated-temperature applications, product may release vapors that may produce cyanosis in the absence of sufficient ventilation or adequate respiratory protection. May cause central nervous system depression characterized by the following progressive steps: headache, dizziness, staggering gait, confusion, unconsciousness or coma. 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. Animal tests have indicated that respiratory sensitization can result from skin contact with certain isocyanates. Harmful if swallowed. Ingestion is not an expected route of entry in industrial or commercial uses.

Chronic: May cause long-term lung damage. May affect the gastrointestinal system. Prolonged or repeated contact may result in dermatitis. Ethylbenzene has been classified by IARC as a possible human carcinogen (Group 2B) and reported by NTP to show clear evidence for carcinogenicity in animals. IARC has designated Methyl isobutyl ketone to be in Group 2B - possibly carcinogenic to humans. The nitrogen substituted aromatic in this product gave positive results for mutagenicity in an Ames Assay study while two other mutagenicity studies proved negative.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Range
Methyl isobutyl ketone	108-10-1	15 - 20 %
Xylene	1330-20-7	10 - 15 %
Toluene	108-88-3	5 - 10 %
Epoxy novolac resin	PROPRIETARY	5 - 10 %
Propionic acid, n-butyl ester	590-01-2	5 - 10 %
Nitrogen substituted aromatic	PROPRIETARY	1 - 5 %
Ethyl benzene	100-41-4	1 - 5 %
Ester solvent	PROPRIETARY	1 - 5 %
4,4'-Diphenylmethane diisocyanate	101-68-8	1 - 5 %
Acetone	67-64-1	1 - 5 %

Any "PROPRIETARY" component(s) in the above table is considered trade secret, thus the specific chemical and its exact concentration is being withheld.

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

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 SDS form. Contain and remove with inert absorbent material.

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 acids, bases, and strong oxidizers. Amines, acids, water, hydroxyl, or active hydrogen compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

COMPONENT EXPOSURE LIMIT

<u>Chemical Name</u>	<u>ACGIH TLV-TWA</u>	<u>ACGIH TLV-STEL</u>	<u>OSHA PEL-TWA</u>	<u>OSHA PEL-CEILING</u>	<u>Skin</u>
Methyl isobutyl ketone	50 ppm	75 ppm	410 mg/m ³ 100 ppm	N.E.	N.A.
Xylene	100 ppm	150 ppm	435 mg/m ³ 100 ppm	N.E.	N.A.
Toluene	20 ppm	N.E.	200 ppm	300 ppm	N.A.
Epoxy novolac resin	N.E.	N.E.	N.E.	N.E.	N.A.
Propionic acid, n-butyl ester	N.E.	N.E.	N.E.	N.E.	N.A.
Nitrogen substituted aromatic	N.E.	N.E.	N.E.	N.E.	N.A.
Ethyl benzene	20 ppm	N.E.	435 mg/m ³ 100 ppm	N.E.	N.A.
Ester solvent	N.E.	N.E.	N.E.	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.
Acetone	500 ppm	750 ppm	2,400 mg/m ³ 1,000 ppm	N.E.	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:	Brown	VAPOR DENSITY:	Heavier than Air
PHYSICAL STATE:	Liquid	LOWER EXPLOSIVE LIMIT:	1 %(V)
FLASH POINT:	67 °F, 19 °C Setaflash	UPPER EXPLOSIVE LIMIT:	13.1 %(V)
	Closed Cup		
BOILING RANGE:	56 - 146 °C	EVAPORATION RATE:	Slower than n-butyl-acetate
AUTOIGNITION TEMPERATURE:	N.D.	DENSITY:	0.99 g/cm ³ - 8.20 lb/gal
DECOMPOSITION TEMPERATURE:	N.D.	VISCOSITY, DYNAMIC:	≥40.0 mPa.s @ 25 °C
ODOR THRESHOLD:	N.D.	VISCOSITY, KINEMATIC:	≥40 mm ² /s @ 25 °C
SOLUBILITY IN H₂O:	Insoluble	VOLATILE BY WEIGHT:	46.76 %
pH:	N.A.	VOLATILE BY VOLUME:	54.43 %
FREEZE POINT:	N.D.	VOC CALCULATED:	3.77 lb/gal, 452 g/1451 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 acids, bases, and strong oxidizers.; Amines, acids, water, hydroxyl, or active hydrogen compounds.

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, Monomeric isocyanate, traces of hydrogen cyanide, nitrogen dioxide, 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
Methyl isobutyl ketone	Oral LD50: Rat 2,080 mg/kg Dermal LD50: Rabbit 3,000 mg/kg Inhalation LC50: Rat 8.2 mg/l /4 h

Xylene	Oral LD50: Rat 3,500 mg/kg Dermal LD50: Rabbit > 1,700 mg/kg Dermal LD50: Rabbit > 4,350 mg/kg Inhalation LC50: Rat 29.08 mg/l /4 h
Toluene	Oral LD50: Rat 2,600 mg/kg Dermal LD50: Rabbit 12,000 mg/kg Inhalation LC50: Rat 12.5 mg/l /4 h
Epoxy novolac resin	N.D.
Propionic acid, n-butyl ester	Oral LD50: Rat 5 g/kg Dermal LD50: Rabbit > 14 g/kg
Nitrogen substituted aromatic	Oral LD50: rat 1,100 mg/kg
Ethyl benzene	Oral LD50: Rat 3,500 mg/kg Dermal LD50: Rabbit 15,400 mg/kg Inhalation LC50: Rat 17.2 mg/l /4 h
Ester solvent	Oral LD50: Rat 8,532 mg/kg Dermal LD50: Rabbit > 5 g/kg
4,4'-Diphenylmethane diisocyanate	Oral LD50: Rat 9,200 mg/kg Oral LD50: Rat 31,600 mg/kg Dermal LD50: rabbit > 5,000 mg/kg GHS LC50 (vapour): rat 11 mg/l /4 h GHS LC50 (dust and mist): rat 1.5 mg/l /4 h Inhalation LC50: Rat 369 mg/m3 /4 h
Acetone	Oral LD50: Rat 5,800 mg/kg Inhalation LC50: Rat 50,100 mg/m3 /8 h

Germ cell mutagenicity: No classification proposed

Carcinogenicity: Category 2 - Suspected of causing cancer.

Components contributing to classification: Methyl isobutyl ketone. Ethyl benzene. 4,4'-Diphenylmethane diisocyanate.

Reproductive toxicity: Category 2 - Suspected of damaging fertility or the unborn child. May cause harm to breast-fed children.

Components contributing to classification: Xylene. Toluene. Ethyl benzene. Acetone. Oxidation inhibitor.

12. ECOLOGICAL INFORMATION

ECOTOXICITY:

Chemical Name	Ecotoxicity
Methyl isobutyl ketone	<u>Fish:</u> Pimephales promelas 496 - 514 mg/196 h flow-through <u>Invertebrates:</u> Daphnia magna 170 mg/148 h <u>Plants:</u> Pseudokirchneriella subcapitata 400 mg/196 h
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
Toluene	<u>Fish:</u> Pimephales promelas 15.22 - 19.05 mg/196 h flow-through Pimephales promelas 12.6 mg/196 h Static Oncorhynchus mykiss 5.89 - 7.81 mg/196 h flow-through Oncorhynchus mykiss 14.1 - 17.16 mg/196 h Static Oncorhynchus mykiss 5.8 mg/196 h semi-static Lepomis macrochirus 11.0 - 15.0 mg/196 h Static Oryzias latipes 54 mg/196 h Static Poecilia reticulata 28.2 mg/196 h semi-static Poecilia reticulata 50.87 - 70.34 mg/196 h Static

	<p><u>Invertebrates:</u> Daphnia magna 5.46 - 9.83 mg/148 h Static Daphnia magna 11.5 mg/148 h <u>Plants:</u> Pseudokirchneriella subcapitata > 433 mg/196 h Pseudokirchneriella subcapitata 12.5 mg/172 h Static</p>
Epoxy novolac resin	N.D.
Propionic acid, n-butyl ester	N.D.
Nitrogen substituted aromatic	N.D.
Ethyl benzene	<p><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</p>
Ester solvent	<p><u>Fish:</u> Pimephales promelas 161 mg/196 h Static <u>Invertebrates:</u> Daphnia magna > 500 mg/148 h</p>
4,4'-Diphenylmethane diisocyanate	<p><u>Fish:</u> Species > 1,000 mg/196 h <u>Invertebrates:</u> Daphnia magna > 1,000 mg/148 h</p>
Acetone	<p><u>Fish:</u> Pimephales promelas 6,210 - 8,120 mg/196 h Static Lepomis macrochirus 8,300 mg/196 h <u>Invertebrates:</u> Daphnia magna 10,294 - 17,704 mg/148 h Static Daphnia magna 12,600 - 12,700 mg/148 h</p>

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. Disposal should be done in accordance with Federal (40CFR Part 261), state and local environmental control regulations. If waste is determined to be hazardous, use licensed hazardous waste transporter and disposal facility.

14. TRANSPORT INFORMATION

US DOT Road

DOT Proper Shipping Name: Adhesives
DOT Hazard Class: 3
SECONDARY HAZARD: None
DOT UN/NA Number: 1133
Packing Group: II
Emergency Response Guide Number: 128

IATA Cargo

PROPER SHIPPING NAME: Adhesives
DOT Hazard Class: 3
HAZARD CLASS: None
UN-NUMBER: 1133
PACKING GROUP: II

EMS: 3L

IMDG

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

The listed transportation classification applies to US DOT Road, 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 the most accurate shipping information, refer to your transportation/compliance department.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS: AS FOLLOWS:

SARA SECTION 313

This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR part 372.:

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Weight % Less Than</u>
Methyl isobutyl ketone	108-10-1	20.0 %
Xylene	1330-20-7	15.0 %
Toluene	108-88-3	10.0 %
Ethyl benzene	100-41-4	5.0 %
4,4'-Diphenylmethane diisocyanate	101-68-8	5.0 %

TOXIC SUBSTANCES CONTROL ACT:

INVENTORY STATUS

The chemical substances in this product are on the TSCA Section 8 Inventory.

EXPORT NOTIFICATION

This product contains the following chemical substances subject to the reporting requirements of TSCA 12(B) if exported from the United States:

NONE

16. OTHER INFORMATION

Under HazCom 2012 it is optional to continue using the HMIS rating system. It is important to ensure employees have been trained to recognize the different numeric ratings associated with the HazCom 2012 and HMIS schemes.

HMIS RATINGS - HEALTH: 2* FLAMMABILITY: 3 PHYSICAL HAZARD: 1

* - Indicates a chronic hazard; see Section 2

Revision: New GHS SDS Format

Effective Date: 04/10/2015

DISCLAIMER

The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.