1. CHEMICAL PRODUCT/COMPANY IDENTIFICATION

Name: MS-755L
K0409A
LGW Heavy Duty Solvent & Flux Remover

Product Use: Solvent Cleaning & Flux Remover for electronic assemblies

MANUFACTURER/DISTRIBUTOR:

Miller-Stephenson Chemical
55 Backus Ave.
Danbury, Conn. 06810 USA
(203) 743-4447

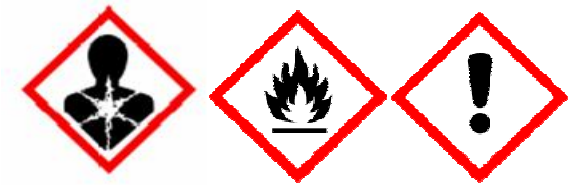
Emergency Phone Number:
(800) 424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
Aerosol: Category 2
Acute toxicity (Oral): Category 4
Serious eye damage/eye irritation: Category 2B
Acute toxicity (Inhalation): Category 4
Specific Target Organ Toxicity (single exposure): Category 3

Label elements:
Signal word
Warning

Pictograms



Hazard Statements
Flammable Aerosol. Pressurized container: may burst if heated.
Harmful if swallowed.
Causes eye irritation.
Harmful if inhaled.
May cause drowsiness or dizziness.

Precautionary Statements
Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Do not spray on an open flame or other ignition source.
Do not pierce or burn, even after use.
Wash skin thoroughly after handling.
Do not eat, drink, or smoke when using this product.
Avoid breathing fumes/mist/vapor/spray.
Use only outdoors or in a well-ventilated area.
IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/ physician if you feel unwell.
Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.
Dispose of contents/ container to an approved waste disposal plant.

3. INGREDIENTS

Material (s)	CAS No.	Approximate %
Trans-1,2-Dichloroethylene	156-60-5	55 – 60
Trans-1-Chloro-3,3,3-trifluoropropene	102687-65-0	30 – 35
Methanol	67-56-1	4 – 6
Carbon Dioxide	124-38-9	3 – 5

4. FIRST AID MEASURES

Inhalation: Remove patient to fresh air. If not breathing, give artificial respiration. Give oxygen as necessary, if qualified personnel is available. Get medical attention if necessary.

Eye: Flush with large amounts of water for at least 15 minutes, lifting eyelids until no evidence of the chemical remains. Remove contact lenses, if present and easy to do. Continue to rinse. Get medical attention

Skin: Wash skin with plenty of water for at least 15 minutes. Wash contaminated clothing before use. Get medical attention if necessary.

Oral: Rinse mouth. Do NOT induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

5. FIRE FIGHTING MEASURES

Flammability: This product is flammable. **Test Method:** Ignition distance test and Enclosed space ignition test

Suitable Extinguishing Media: Alcohol resistant foam, Dry chemical, Carbon dioxide (CO2)

Special hazards: This product is flammable. Hazardous reaction will not occur under normal conditions. Keep containers cool by spraying with water so they don't rupture when exposed to excessive heat. Vapors may accumulate in confined spaces and are heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

Special Fire Fighting Instruction: Do not enter area without personal protective equipment. Exposure to decomposition products may be a hazard to health. Wear self-contained breathing apparatus, if necessary. Use water spray to keep exposed containers cool. Do not allow run-off from fire-fighting to enter drains or water sources.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Evacuate personnel to safe area. Use personal protective equipment. Remove all sources of ignition. Ventilate area, especially low or enclosed places where heavy vapors might collect. In case of insufficient ventilation, wear suitable respiratory equipment.

Environmental precautions: Avoid release to the environment. Prevent material from entering sewers, waterways, or low areas. Do not allow contact with soil, surface, or ground water. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up: Contain spillage, and then collect with electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local / national regulations.

7. HANDLING AND STORAGE

Handling: Keep away from open flame or other ignition sources. Use in a well-ventilated area to avoid breathing vapors. Vapors are heavier than air and accumulate in low areas. Use only with adequate ventilation. Use appropriate respiratory protection when ventilation is inadequate. When using do not eat, drink, or smoke. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling.

Storage Conditions: Store in a clean, dry place that is well-ventilated. Do not store near sources of heat, in direct sunlight or where temperatures exceed 125^{O}F/52^{O}C. Do not pierce or burn, even after use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Limits:	TWA (ACGIH)	PEL (OSHA)
Trans,1,2-Dichloroethylene	200 ppm, TWA	200 ppm, 8 Hr. TWA
Trans-1-Chloro-3,3,3-trifluoropropene	Not Established	Not Established
Methanol	200 ppm, TWA	200 ppm, PEL

Respiratory Protection: Avoid breathing vapors, mists or spray Local exhaust should be used when large amounts are release. If necessary, wear suitable respiratory equipment. Wear a positive-pressure supplied-air respirator. In poorly ventilated areas, or if a large release occurs, use an approved self-contained breathing apparatus (SCBA).

Eye Protection: Avoid eye contact. Use chemical goggles or safety glasses with side shields.

Skin Protection: Avoid contact with skin. Use gloves/protective clothing that impervious to this material when prolonged or frequently repeated contact occurs.

Hygiene measures: Do not eat, drink or smoke when using this product. Do not breathe vapors or spray mist. Avoid contact with skin, eyes, or clothing. Wash exposed areas thoroughly after contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point: N.A.

Percent Volatile by Volume: 100%

Density: 1.20 g/cc at 77°F/25°C

Vapor Pressure: N.A.

Vapor Density (Air=1): N.A.

Solubility in H_2O: Insoluble

Form: Aerosol

Appearance: Clear

Color: Clear-Colorless

Odor: Slight odor

10. STABILITY AND REACTIVITY

Reactivity: Stable and non-reactive under normal conditions.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Material and Conditions to Avoid: Heat, sparks, flames. Direct sunlight. Extremely high temperatures. Strong oxidizers. Powdered Magnesium and Aluminum.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Carbon oxides (CO, CO_2), Hydrogen Chloride, Hydrogen fluoride, Carbonyl halides.

11. TOXICOLOGICAL INFORMATION

Trans-1,2-Dichloroethylene

Acute Oral: LD50: 7902 mg/kg in rats
Acute Dermal: LD50: > 5,000 mg/kg in rabbits
Acute Inhalation: 4 hour LC50: 95.4 mg/l in rats. Test atmosphere: vapor. Method: OECD Test Guideline 403
Skin Corrosion/Irritation: Mild skin irritation in rabbits
Serious Eye Irritation/ Eye Irritation: Eye irritation in rabbits. Reversing within 7 days.
Skin Sensitization: No data available
Respiratory Sensitization: No data available
Germ Cell Mutagenicity: Evidence does not support classification of a germ cell mutagen.
Carcinogenicity: Not classified based on available information.
Reproductive toxicity: Negative for Embryo-fetal development in rats by inhalation (OECD Test Guideline 414)
STOT-single exposure: May cause drowsiness and dizziness.
STOT-repeated exposure: Inhalation: No significant health effects observed in animals at concentrations of 250 ppmV/6h/d or less.
Aspiration toxicity: Not classified based on available information.

Trans-1-Chloro-3,3,3-trifluoropropene

Acute Inhalation: 4 hour, LC50 rat:120000 ppm
Skin irritation: 4 hour, rabbit: Not classified as a skin irritant in animal testing. Method: OECD Test Guideline 404
Sensitization: Does not cause skin sensitization. Classification: Patch test on human volunteers did not demonstrate sensitization properties.

Repeated dose toxicity: 4 Weeks, Inhalation, rat: NOEL 4500 ppm. Note: Subacute toxicity
Genotoxicity in vitro and in vivo: Various tests did not show mutagenic effects.
Reproductive toxicity: Species: Rabbit: No-observed-effect level - 15,000 ppm
Species: Rat: No-observed-effect level - 10,000ppm
Teratogenicity: Species: Rabbit: No-observed-effect level - 15,000 ppm
Species: Rat: No-observed-effect level - 10,000ppm

Methanol

Inhalation Acute toxicity: 3mg/l estimated, 4 hours (vapor) (Based on harmonized classification in EU regulation 1272/2008, Annex VI)
Dermal Acute toxicity: 300 mg/kg, (estimated in humans)
Oral Acute Toxicity: 300 mg/kg, (estimated in humans)
Skin Corrosion/Irritation: No irritation, Rabbit
Serious Eye Irritaion/ Eye Irritation: No irritation, Rabbit
Skin sensitization: Negative in Guinea pig (Maximization Test)
Respiratory Sensitization: Not classified based on available information
Germ Cell Mutagenicity: Genotoxicity in vivo and vitro tests were negative.
Carcinogenicity: Negative in Mouse, 18 months (inhalation-vapor).
Reproductive Toxicity: Fertility/early embryonic development - Negative in Mouse (ingestion)
Embryo-fetal development - Positive in Mouse (ingestion). The effects were only at maternally toxic doses.
STOT-single exposure: May cause damage to organs (Eyes, Central Nervous System)
STOT-repeated exposure: NOEL: 1.06 mg/l (90 days, Inhalation-vapor) in rats
Aspiration toxicity: Not classified based on available information
.

12. ECOLOGICAL INFORMATION

Trans-1,2-Dichloroethylene

96 hour LC50 in Lepomis marochirus (Bluegill sunfish): 135 mg/l. Based on data form similar materials.
48 hour EC50 in Daphnia magna (Water flea): 220 mg/l. Method: EPA-660/3-75-009
48 hour EbC50 in Pseudokirchneriella subcapitata (Green algae): 36.36 mg/l. Method: OECD Test Guideline 201

Biodegradability: Not readily biodegradable. Method: OECD Test Guideline 301D
Bioaccumulative potential: Partition coefficient n-octanol/ water (log Pow): 2.06
Mobility in soil: No data available.

Trans-1-Chloro-3,3,3-trifluoropropene

96 hour LC50 – Oncorhynchus mykiss (rainbow trout): 38 mg/l. Method: OECD Test Guideline 203
48 hour EC50 – Immobilization of Daphnia magna (Water flea): 82 mg/l. Method: OECD Test Guideline 202
72 hour EC50 – Growth inhibition of Pseudokirchneriella subcapitata (green algae): > 215 mg/l. Method: OECD Test Guideline 201
72 hour NOEC – Growth rate of Pseudokirchneriella subcapitata (green algae): 115mg/l. Method: OECD Test Guidelines 201
Bioaccumulation: No bioaccumulation is to be expected, due to the distribution coefficient n-octonol/water.
Biodegradability: Not readily biodegradable. Value: 0%. Method: OECD 301D

Methanol

96 hour LC50 in Lepomis marochirus (Bluegill sunfish): 15,400 mg/l
48 hour EC50 in Daphnia magna (Water flea): >10,000 mg/l
96 hour EC50 in Pseudokirchneriella subcapitata (Green algae): 22,000 mg/l
200 hour NOEC in Oryzias latipes (Orange-red killfish): 15,800 mg/l
Biodegradability: Readily biodegradable. 95% biodegradable in 20 days
Bioaccumulative potential: Partition coefficient: n-octanol/water: log Pow: -0.77

13. DISPOSAL CONSIDERATIONS

Comply with federal, state and local regulations. Remove to a permitted waste disposal facility.

14. TRANSPORT INFORMATION

U.S. DOT
Limited Quantity

IATA
Proper Shipping Name: Aerosols, Flammable
Hazard Class: 2.1
Identification No. UN1950
Packing Group: None

IMDG
Proper Shipping Name: Aerosols, Flammable
Hazard Class: 2.1
Identification No. UN1950
Packing Group: None

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA: All ingredients are listed in TSCA inventory.

SARA 313 Regulated Chemicals: Methanol

State Regulations (U.S.)

California Proposition 65: This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm.

16. OTHER INFORMATION

FOR INDUSTRIAL USE ONLY

REVISION DATE: AUGUST 2021

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user.