



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

Flammable aerosol: Category 2
Acute toxicity (Oral): Category 4
Specific Target Organ Toxicity (single exposure): Category 1
Gases under pressure – Liquefied Gas

Label elements:

Signal word

Warning

Pictograms



Hazard Statements

Flammable aerosol
Harmful if swallowed.
Causes damage to organs (optic nerve)
Contains gas under pressure; may explode if heated.

Precautionary Statements

Do not spray on an open flame or other ignition source.

Avoid breathing mist/vapors/spray.

Wash skin thoroughly after handling.

Do not eat, drink, or smoke when using this product.

Use in a well-ventilated area.

Avoid release to the environment.

IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

If exposed: Call a POISON CENTER or doctor/physician

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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

<u>Material (s)</u>	<u>CAS No.</u>	<u>Approximate %</u>
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 – 4

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. Get medical attention. Remove contact lenses, if present and easy to do. Continue to rinse.

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

Oral: 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: Hazardous reaction will not occur under normal conditions. Keep containers cool by spraying with water. Vapors may accumulate in confined spaces and are heavier than air.

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.

6. ACCIDENTAL RELEASE MEASURES

Safeguards (Personnel): 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: Prevent material from entering sewers, waterways, or low areas. Should not be released into the environment.

Spill Cleanup: 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°F/52°C. Do not pierce or burn, even after use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Exposure Limits:</u>	<u>TWA (ACGIH)</u>	<u>PEL (OSHA)</u>	<u>TWA (Honeywell)</u>
Trans-1-Chloro-3,3,3-trifluoropropene	Not Established	Not Established	300 ppm
Trans,1,2-Dichloroethylene	200 ppm, TWA	200 ppm, 8 Hr. TWA	
Methanol	200 ppm, TWA	200 ppm, 8 Hr. TWA	

Respiratory Protection: Avoid breathing vapors, mists or spray. Use with sufficient ventilation especially for enclosed or low places. Vapors are heavier than air and can cause suffocation by reducing oxygen. In poorly ventilated areas, use an approved self-contained breathing apparatus.

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.

Prevention of Swallowing: Do not eat or drink when using this product. Wash exposed areas thoroughly with soap and water.

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 H₂O: Insoluble

Appearance: Clear Liquid

Odor: Slight

10. STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical stability: Stable at normal ambient conditions.

Possibility of hazardous reactions: Hazardous polymerization will not occur.

Material and Conditions to Avoid: Heat, sparks, flames. Direct sunlight. Extremely high temperatures. Acids, alkali metals, oxidizing agents, and powdered Magnesium and Aluminum.

Decomposition: This product can be decomposed by high temperatures (flame, glowing metal surfaces, etc.) forming Carbon oxides (CO, CO₂), Hydrogen Chloride, Hydrogen fluoride, Carbonyl fluoride, Fluorocarbons.

11. TOXICOLOGICAL INFORMATION

Animal Data

Trans-1,3,3,3-Tetrafluoroprop-1-ene

Inhalation:

4 hour, LC50 rat: >207000 ppm

Skin irritation: No skin irritation in rabbits. Method: OECD Test Guideline 404

Method: OECD Test Guideline 40

Sensitization: Cardiac sensitization

Species: Dogs

Result: Did not cause sensitization on laboratory animals.

Repeated dose toxicity:

13 Weeks, Inhalation, rat: Causes mild effects on the heart. NOEL 5,000 ppms

Genotoxicity in vitro: In vitro tests did not show mutagenic effects.

Teratogenicity: Did not show teratogenic effects in animal experiments.

Other Health Effects: This substance has no evidence of carcinogenic properties.

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

Inhalation:

Acute Inhalation Toxicity: 4 hour, LC50:120000 ppm in rats.

Skin irritation: Rabbit testing indicates this material is not a skin irritant.

Sensitisation: Does not cause skin sensitization.

Repeated dose toxicity:

4 Weeks, Inhalation, rat: NOEL 4500 ppm Note: Subacute toxicity

Gentoxicity; In vitro and in vivo tests didn't show mutagenic effects.

Reproductive toxicity: Species: rabbit, No-observed-effect level approx. 15,000 ppm
Species: rat, No-observed-effect level approx. 10,000ppm

Teratogenicity: Species: rabbit, No-observed-effect level approx. 15,000 ppm
Species: rat, No-observed-effect level approx. 10,000pp

Methanol

Inhalation Acute toxicity: 3mg/l, animals (unspecified species)

Target Organs: Central nervous system, Eye, Central nervous system effects, narcosis, eye effects.

Dermal Acute toxicity: 300 mg/kg in rabbits (unspecified species)

Target Organs: Central nervous system, Eye, Central nervous system effects, narcosis, eye effects.

Oral Acute Toxicity: 100 mg/kg, animals (unspecified species)

Target Organs: Central nervous system, Eye, Central nervous system effects: narcosis, eye effects

Skin irritation: Slight or no irritation, Rabbit

Eye irritation: Slight irritation, Rabbit

Skin sensitization: Did not cause sensitization on laboratory animals, Guinea pig

Carcinogenicity: Not classifiable as a human carcinogen. Overall weight evidence indicates that the substance is not carcinogenic.

Mutagenicity: Animal testing did not show any mutagenic effects.

Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Overall weight of evidence indicates that the substance is not mutagenic.

Did not cause genetic damage in animals.

Genetic damage in cultured mammalian cells was observed in some laboratory tests but not in others.

Genetic damage in cultured bacterial cells was observed in some laboratory tests but not in others.

Reproductive Toxicity: No toxicity or reproduction. Evidence suggests the substance is not a reproductive toxin in animals.

Teratogenicity: Evidence suggests the substance is not a developmental toxin in animals.

12. ECOLOGICAL INFORMATION

Aquatic Toxicity:

Trans-1,3,3,3-Tetrafluoroprop-1-ene

96 hour NOEC – Cyprinus carpio (Carp): > 117 mg/L

48 hour EC50 – Daphnia magna (Water flea): > 160 mg/L

Toxicity to algae: Growth inhibition: NOEC: > 170 mg/l, Exposure time: 72 h

Biodegradability: Aerobic: Not readily biodegradable

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): 106.7 mg/l (Method: OECD Test Guideline 201)
72 hour NOEC – Growth rate of Pseudokirchneriella subcapitata (green algae): 115mg/l (Method: OECD Test Guidelines 201)

Methanol

96 hour LC50 – Flathead minnow: 28,100 mg/l
48 hour EC50 – Daphnia (water flea): > 10,000 mg/l
96 hour LC50 – Green algae (Selenastrum carpicornutum): 22,000 mg/l

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

U.S. DOT

Proper Shipping Name: Consumer Commodity
Hazard Class: ORM-D
Identification No. None
Packing Group: None

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

NPCA-HMIS Ratings:

Health - 2
Flammability - 2
Reactivity - 0

Personal Protective rating to be supplied by user depending on the conditions.

FOR INDUSTRIAL USE ONLY

REVISION DATE: FEBRUARY 2016

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.