

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Section 1 CHEMICAL PRODUCT SECTION

1.1 Identification: Product Name: Flux Remover Lead Free
Product Number: 8622, AS1697
CAS# Mixture (see section 3)

1.2 Product description: Chemical aerosol
Product type: Flux remover for lead-free flux
Application: Industrial applications

1.3 Manufacturer: ACL Incorporated
840 W. 49th Place
Chicago, IL 60609

PH: (01) 847.981.9212 [U.S.A.]
FAX: (01) 847.981.9278 [U.S.A.]

Email of responsible party for SDS: marykay@aclstaticide.com

1.4 Emergency telephone:
US/Canada Emergency TEL: INFOTRAC: (01) 800.535.5053 (day or night)
International Emergency TEL: INFOTRAC: 352.323.3500 (day or night)

Section 2 HAZARDOUS IDENTIFICATION

2.1 Classification of the substance or mixture

Product definition: Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS] & (US) OSHA HCS 2012:

PHYSICAL/CHEMICAL HAZARDS: Aerosols – Category 1

HUMAN HEALTH HAZARDS:

Acute Toxicity Oral – Category 4

Aspiration Hazard – Category 1

Eye Irritation – Category 2A

Reproductive Toxicity – Category 2

Skin Irritation – Category 2

Specific Target Organ Toxicity – Repeated Exposure – Category 2

Specific Target Organ Toxicity – Single Exposure – Category 1

ENVIRONMENTAL HAZARDS: Chronic aquatic toxicity – Category 2

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms:



Signal word: Danger

Hazard statements: H302- Harmful if swallowed
H304 – May be fatal if swallowed and enters airways
H315 – Causes skin irritation
H319 – Causes serious eye irritation
H361 – Suspected of damaging fertility or an unborn child

H370 – Causes damage to organs
H373 – May cause damage to organs through prolonged or repeated exposure
H222 - Extremely flammable aerosol
H229 – Pressurized container: May burst if heated
H411 – Toxic to aquatic life with long lasting effects

Precautionary statements

Prevention:

P101 - If medical advice is needed, have product container or label at hand.
P102 - Keep out of reach of children
P103- Read label before use.
P201 – Obtain special instructions before use.
P202 – Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat/sparks/open flames/hot surfaces. No Smoking.
P211 – Do not spray on an open flame or other ignition source.
P251 – Do not pierce or burn, even after use.
P260 – Do not breathe dust/fume/gas/mist/vapors/spray.
P264 – Wash thoroughly after handling.
P270 – Do not eat, drink or smoke when using this products.
P273 – Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response:

P301 + P312 - IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 - Rinse mouth.
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P331 - Do NOT induce vomiting.
P391 - Collect spillage.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice/attention.
P308 + P313 - IF exposed or concerned: Get medical advice/attention.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P321 - For specific treatment see section 4.
P332 + P313 - If skin irritation occurs: Get medical advice/attention.
P362 + P364 - Take off contaminated clothing. And wash it before reuse.
P314 - Get Medical advice/attention if you feel unwell.
P308 + P311 - IF exposed or concerned: Call a POISON CENTER/doctor.

Precautionary Statements – Storage:

P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P405 - Store locked up.

Precautionary Statements – Disposal:

P501 Dispose of contents/container to comply with local, state and federal regulations

2.3 Other Hazard: None known

Section 3 COMPOSITION / INFORMATION ON INGREDIENTS			
3.1 Substances			
CHEMICAL	C.A.S. Number	Weight %	GHS Classification
Acetone	67-64-1	26 – 44	Flam. Liq. 2; H225 Eye Irrit. 2A; H319 STOT SE 3; H336
2-Methyl Pentane	107-83-5	23 - 38	Flam. Liq. 2; H225 Skin Irrit. 2; H304

			STOT SE 3; H315 Asp. Tox. 1; H336 Aquatic Acute 2; H411 Aquatic Chronic 2; H411
VM & P Naphtha	64742-49-0	11 – 23	Flam. Liq. 2; H225 Skin Irrit. 2; H304 Repr. 2; H315 STOT SE 3; H336 STOT RE 2; H361 Asp. Tox. 1; H373 Aquatic Acute 2; H411 Aquatic Chronic 2; H411
Methanol	67-56-1	2 - 5	Flam. Liq. 2; H225 Acute Tox. 3; H301 + H311 + H331 STOT SE 1; H370
Carbon Dioxide	124-38-9	2 - 5	Press. Gas Liquefied gas; SA ; H280
n-Hexane	110-54-3	1 - 2	Flam. Liq. 2; H225 Skin Irrit. 2; H304 Repr. 2; H315 STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H361 Aquatic Acute 2; H411 Aquatic Chronic 2; H411

Section 4 FIRST AID MEASURES

4.1.1 General Information

4.1.2 Inhalation: Remove source of exposure or move person to fresh air and keep comfortable for breathing. If exposed/feel unwell/concerned: Call a POISON CENTER/doctor. Eliminate all ignition sources if safe to do so.

4.1.3 Skin: Take off contaminated clothing, shoes and leather goods (e.g. watchbands, belts). Wash with plenty of lukewarm, gently flowing water for a duration of 15-20 minutes. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before re-use. IF exposed or concerned: Get medical advice/attention.

4.1.4 Eyes: Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for several minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing for a duration of 15-20 minutes. Take care not to rinse contaminated water into the unaffected eye or onto the face. If eye irritation persists: Get medical advice/attention.

4.1.5 Ingestion: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position. Do not give anything.

4.1.6 Self-protection of the first aider: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

4.2 Most important symptoms and effects, both acute and delayed:

Potential acute health effects

Eye contact: No specific data

Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data.

Over-exposure signs/symptoms

Eye contact: No specific data Inhalation: No specific data

Skin contact: No specific data

Ingestion: No specific data

4.3: Indication of any immediate medical attention and special treatment needed: No data available

Section 5

FIRE FIGHTING MEASURES

5.1 Extinguishing Media

Dry chemical, foam, carbon dioxide is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only. Do not direct a solid stream of water or foam into hot, burning pools this may results in frothing and increase fire intensity.

Unsuitable extinguishing media: No specific data

5.2 Specific hazards arising from substance or mixture

Contents under pressure. Keep away from ignition sources and open flames. Exposure of containers to extreme heat and flames can cause them to rupture often with violent force. Product is highly flammable and forms explosive mixtures with air, oxygen, and all oxidizing agents. Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. During a fire, irritating and highly toxic gases may be generated during combustion or decomposition. High temperatures can cause sealed containers to rupture due to a build up of internal pressures. Cool with water.

DO NOT cut, drill, grind, or weld near full, partially full, or empty product containers.

Container could potentially burst or be punctured upon mechanical impact, releasing flammable vapors.

5.3 Advice from fire fighters

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Water may be ineffective but can be used to cool containers exposed to heat or flame. Caution should be exercised when using water or foam as frothing may occur, especially if sprayed into containers of hot, burning liquid.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

Section 6

ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

For emergency responders: Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

6.2 Environmental precautions

6.3 Methods and material or containment and cleaning up

6.3.1 For containment: Cover spills with inert absorbent and place in closed chemical waste containers.

6.3.2 For cleaning up Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

6.3.3 Other information: Keep away from heat. Keep away from sources of ignition.

6.4 Reference to other sections: For personal protection, see Section 8

Section 7	HANDLING AND STORAGE
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7.1 Precautions for safe handling:

Wash hands after use.

Do not get in eyes, on skin or on clothing.

Do not breathe vapors or mists.

Use good personal hygiene practices.

Eating, drinking and smoking in work areas is prohibited.

Remove contaminated clothing and protective equipment before entering eating areas.

Eyewash stations and showers should be available in areas where this material is used and stored.

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

7.2 Conditions for safe storage including incompatibilities:

Do not cut, drill, grind, weld or perform similar operations on or near containers. Do not pressurize containers to empty them.

Store at temperatures below 120°F.

7.3 Specific end use(s): Removing lead-free flux from printed circuit boards during repair and manufacture.

Section 8	EXPOSURE CONTROL / PERSONAL PROTECTION
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8.1 Control parameters

Occupational exposure limits

ingredient name	OSHA TWA	ACGIH TLV	NIOSH TWA	WEL UK
Acetone	1000 ppm 2400 mg/m3	250 ppm 1000 ppm (STEL)	250 ppm 590 mg/m3	No data
2-Methyl Pentane	No data	500 ppm 1000 ppm (STEL)	No data	No data
VM & P Naphtha	500 ppm 2000mg/m3	No data	350 mg/m3	No data
Methanol	200 ppm 260 mg/m3	No data	350mg/m3	No data
Carbon Dioxide	5000 ppm 9000 mg/m3	5000 ppm 9000 mg/m3	5000 ppm 9000 mg/m3 30,000 ppm (STEL) 54,000 mg/m3 (STEL)	No data
n-Hexane	500 ppm 1800 mg/m3	50 ppm 176 mg/m3	50 ppm 176 mg/m3	No date

Recommended monitoring procedures: Not established

DNELs/DMELs: No DNELs/DMELs available.

PNECs: No PNECs available

8.2 Exposure controls:

8.2.1 Appropriate engineering controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. See section 2 for component exposure guidelines. Local Exhaust ventilation acceptable

8.2.2 Personal protective equipment Ensure the safety showers are proximal to the work-station location. Wear lab coat.

8.2.2.1 Eye and face protection Ensure that eyewash stations are proximal to the work-station location. Splash Goggles are recommended.

8.2.2.2 Skin protection Gloves Recommended: Solvex, Neoprene, Butyl, Buna or Natural Latex are acceptable

8.2.2.3 Respiratory protection Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

8.2.2.4 Thermal hazards: Wear appropriate thermal protective clothing, when necessary

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

In case of large spill: Splash goggles, full suit, vapor respirator, boots, gloves and a self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Section 9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Physical properties

Appearance: Physical Form Color	liquid Aerosol clear
Odor	Pungent solvent
pH	No data
Melting point/freezing point	No data
Initial boiling point and boiling range	No data
Flash point and method	No data
Evaporation rate	No data
Flammability (solid, gas, liquid)	No data
Upper/lower flammability or explosive limits	No data
Vapor pressure	No data
Vapor density (air=1)	No data
Relative density	No data
Solubility(ies).	No data
Partition coefficient: n-octanol/water	No data
Autoignition temperature	No data
Decomposition temperature	No data
Viscosity	No data
Volatile by weight	No data

9.2 Other safety information

Density	6.05242 lb/gal
VOC	58.36454%
VOC Actual (g/l)	423.29559 g/l
VOC Density	3.53247 lb/gal

Section 10	STABILITY AND REACTIVITY
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10.1 Reactivity: Material is stable at standard temperature and pressure.

10.2 Chemical stability: Stable under recommended storage conditions

10.3 Possibility of hazardous reactions: None under normal conditions. Hazardous polymerization will not occur under normal storage conditions.

10.4 Conditions to avoid: Keep away from direct sunlight and other sources of ignition.
Dropping containers may cause bursting.

10.5 Incompatible materials: Avoid strong oxidizers, reducers, acids, and alkalis.

10.6 Hazardous decomposition products: No data available.

Section 11	TOXICOLOGY INFORMATION
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11.1 Information on toxicological effects

Acute toxicity

LD50 Oral (rat): 25,000 mg/kg

LC50 Inhalation (rat): 48,000 ppm / 4h

Dermal: no data

Conclusion/Summary : No data available

Eye Irritation/Corrosion:

Eyes - Rabbit

Conclusion/Summary: Mild eye irritation

Skin Irritation/Corrosion:

Conclusion/Summary : Irritating to skin

Skin sensitization

Conclusion/Summary: No data available

Sensitization to the respiratory tract

Conclusion/Summary: Not available.

Mutagenicity

Conclusion/Summary: No data available.

Carcinogenicity Conclusion/Summary:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity Conclusion/Summary: Overexposure may cause reproductive disorder(s) based on tests with laboratory animals. Suspected human reproductive toxicant Suspected of damaging fertility.

Teratogenicity Conclusion/Summary: Not available.

Specific target organ toxicity (single exposure) May cause drowsiness or dizziness.

Specific target organ toxicity (repeated exposure): Ingestion - May cause damage to organs through prolonged or repeated exposure. - Nervous system

Aspiration hazard: May be fatal if swallowed and enters airways.

Information on the likely routes of exposure: RTECS: MN9275000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Testes. - Irregularities - Based on Human Evidence

Section 12	ECOLOGICAL INFORMATION
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12.1 Toxicity

Conclusion/Summary : Product is toxic to aquatic life with long lasting effects

12.2 Persistence and degradability

Product/ingredient name	Test	Result
Acetone	-	72% aerobic biodegradability
2-Methyl Pentane	-	-
VM & P Naphtha	-	-
Methanol	OECD Test Guideline 301B	91% readily biodegradable
Carbon Dioxide	-	-
n-Hexane	4 (LogP) 501.187 (BCF)	High potential

Conclusion/Summary : Not available

12.3 Bioaccumulative potential

Product/ingredient name	
Acetone	Does not bioaccumulate
2-Methyl Pentane	
VM & P Naphtha	
Methanol	
Carbon Dioxide	
n-Hexane	No data

Conclusion/Summary : Not available

12.4 Mobility in soil: Methanol will not absorb on soil

Soil/water partition coefficient (K_{oc}): Not available.

Mobility: Not available.

12.5 Results of PBT and vPvB assessment

PBT: Not available.

vPvB: Not available.

12.6 Other adverse effects: No known significant effects or critical hazards.

Section 13	DISPOSAL CONSIDERATIONS
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The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

13.1.1 Product / Packing Disposal

Product

Methods of disposal: Offer surplus and non-recyclable solutions to a licensed disposal company

Hazardous waste: RCRA 40 CFR 261 Classifications: Code D001 Ignitable Waste

Contaminated Packaging

Methods of disposal: Dispose of as unused product. Waste packaging should be recycled.

Do not puncture, incinerate or compact aerosol can.

When contents are depleted continue to depress button until all gas is expelled.

13.1.2 Waste treatment-relevant information: Incineration or landfill should only be considered when recycling is not feasible. Handle empty containers with care because residual vapours are flammable

13.1.3 Sewage disposal-relevant information: Avoid release to the environment

13.1.4 Other disposal recommendations: Federal, State, and Local laws governing disposal of material can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14	TRANSPORTATION INFORMATION
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	Proper Shipping Name	Hazard Class	Packing Group	UN number	Limitations
US DOT ground	Consumer Commodity	ORM-D	NA	NA	NA
US DOT air	Consumer Commodity	9	NA	1950	NA
IATA	Aerosols, Flammable	2.1	NA	1950	Y203
IMDG	Aerosols, Flammable	2.1	NA	1950	Y203

Section 15	REGULATORY INFORMATION
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United States Federal Regulations: SDS complies with the OSHA, 29 CFR 1910.1200.

CHEMICAL	C.A.S.	Weight %	Section 311 / 312	313 Toxic	CERLA	HAPS
Acetone	67-64-1	26 – 44	Acute Health Hazard; Fire Hazard, Chronic Health Hazard		5,000 RQ	
2-Methylpentane	107-83-5	23 - 38	-----			
VM & P Naphtha	64742-49-0	11 – 23	Acute Health Hazard; Fire Hazard			
Methanol	67-56-1	2 - 5	Acute Health Hazard; Fire Hazard; Chronic Health Hazard	x	5,000 RQ	x
Carbon Dioxide	124-38-9	2 - 5	---			
n-Hexane	110-54-3	1 - 2	Acute Health Hazard; Fire Hazard	x		x

Toxic Substance Control Act (TSCA): **All substances are TSCA listed.**

Resource Conservation and Recovery Act (RCRA 40 CFR 261) Subpart C & D: **Refer to Section 13 for RCRA classification.**

STATE REGULATIONS:

The following chemicals are specifically listed by individual state; other product specific health and safety data in other sections of the SDS may also be applicable for state requirements. For details on your regulatory requirements you should contact the appropriate agency in your state

CHEMICAL	C.A.S.	Weight %	States
Acetone	67-64-1	26 – 44	MA, PA, NJ
2-Methyl Pentane	107-83-5	23 - 38	MA, PA, NJ
VM & P Naphtha	64742-49-0	11 – 23	MA, NY, NJ, PA
Methanol	67-56-1	2 - 5	MA, PA, NJ
Carbon Dioxide	124-38-9	2 - 5	MA, PA, NJ
n-Hexane	110-54-3	1 - 2	MA, NY, NJ, PA

California Proposition 65:



WARNING: This product can expose you to chemicals including n-Hexane and methanol, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

INTERNATIONAL REGULATIONS:

Canada WHMIS:

CHEMICAL	C.A.S.	Weight %	DSL	NPRI
Acetone	67-64-1	26 – 44	x	
2-Methyl Pentane	107-83-5	23 - 38	X	x
VM & P Naphtha	64742-49-0	11 – 23	X	
Methanol	67-56-1	2 - 5	X	x
Carbon Dioxide	124-38-9	2 - 5	X	
n-Hexane	110-54-3	1 - 2	x	x

15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture

To the best of our ability, this SDS is written in accordance to REACH Directive EC1907/2006 Annex II and GHS requirements. This product is not subject to REACH restrictions under Annex XVII. This product does not contain a substance identified as a SvHC candidate.

Canada WHMIS: This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

15.2 Chemical Safety Assessment: No chemical safety assessment has been carried out

Sections 16	OTHER INFORMATION
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HMIS HAZARD RATING:

(3) Fire (1) Health (1) Reactivity (B) Protective Equipment

REVISION DATES, SECTIONS, REVISED BY:

19-Aug-13	Original Preparer: Steve Allen
02-OCT-13	revised section 16, mkb
10-Jan-14	Changed name and part #, mkb
01-June-14	Updated to REACH, mkb
08-Mar-18	Reviewed and updated all sections, mkb

ABBREVIATIONS USED IN THIS DOCUMENT:

NE – Not Established, NA – Not Applicable, NIF – No Information Found, ND – Not Determined

ABRIDGED LIST OF REFERENCES:

Code of Federal Regulations (CFR)
The Sigma-Aldrich Library of Regulatory and Safety Data
Chemical Guide and OSHA Hazardous Communication Standard
The Environmental Protection Agency (www.epa.gov)
http://oehha.ca.gov/prop65/prop65_list
<http://orise.orau.gov/emi/hazards-assessment/files/resources/epa-title3.pdf>

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