

1 Identification**GHS Product Identifier**

Product form: Mixture
Trade name: ACL A4 FLUX REMOVER & CLEANER-55
Product code: FLUX-8624

Other means of identification

Flux Remover

Supplier's details

ACL, Inc
840 W 49th Place
Chicago, IL 60609 USA

Tel.: 800-782-8420

Emergency phone number

INFOTRAC 1-352-323-3500 (International) 1-800-535-5053 (North America)

2 Hazard(s) identification**Classification of the substance or mixture**

SKIN CORROSION/IRRITATION – Category 2
SERIOUS EYE DAMAGE/EYE IRRITATION – Category 2

GHS label elements

Warning



Contains gas under pressure; may explode if heated

Causes serious eye irritation

Do not pierce or burn, even after use.

Wear protective gloves/protective clothing/eye protection/face protection.

IF ON SKIN: Wash with plenty of soap and water.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing.

Wash contaminated clothing before reuse.

Store in a well-ventilated place.

Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Other hazards which do not result in classification

None

3 Composition/information on ingredients

Description	CAS Number	EINECS Number	%	Note
Trans - 1, 2 Dichloroethylene	156-60-5		70	
trans-1,3,3,3-Tetrafluoroprop-1-ene (Active ingredient)	29118-24-9		30	

4 First-aid measures

Description of necessary first-aid measures

Ingestion:	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
Inhalation:	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If not breathing, if breathing is irregular, or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt, or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Skin Contact:	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Eye Contact:	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential Acute Health Effects

Eye Contact:	Causes serious eye irritation.
Inhalation:	Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Skin Contact:	Causes skin irritation.
Ingestion:	Irritating to mouth, throat, and stomach.

Over-Exposure Sign/Symptoms

Eye Contact:	Adverse symptoms may include the following: Pain or irritation, Watering, Redness
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Inhalation: Adverse symptoms may include the following:
Respiratory tract irritation, Coughing

Skin Contact: Adverse symptoms may include the following:
Irritation, Redness

Ingestion: No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to Physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific Treatments: No specific treatment.

Protection of First-Aiders: No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

5 Fire-fighting measures

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire

Specific hazards arising from the chemical

In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from fire at high speed.

Hazardous Thermal

Decomposition Products: Decomposition products may include the following materials: Carbon Dioxide, Carbon Monoxide, Halogenated Compounds, Carbonyl Halides

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special Protective Equipment
for Firefighters:

Firefighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

For Non-Emergency Personnel: No action shall be taken involving any personal risk without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurized contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate

personal protective equipment.

For Emergency Responders:

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For Non-Emergency Personnel".

Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains, and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air).

Methods and materials for containment and cleaning up

Small Spill:

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternately, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spill:

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements, or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite, or diatomaceous earth and place in container for disposal according to local regulations (See Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: See Section 1 for emergency contact information and Section 13 for waste disposal.

7 Handling and storage

Precautions for safe handling

Protective Measures:

Put on appropriate personal protective equipment (See Section 8 of SDS). Pressurize container: protect from sunlight and do not expose to temperatures exceeding +50°C. Do not pierce or burn, even after use. Do not ingest. Avoid contact with eyes, skin, and clothing. Avoid breathing gas. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous.

Advice on General

Occupational Hygiene:

Eating, drinking, and smoking should be prohibited in area where this material is handled, stored, and processed. Workers should wash hands and face before eating, drinking, and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store away from direct sunlight in a dry, cool, and well ventilated area, away from incompatible materials (See Section 10) and food and drink. Use appropriate containment to avoid environmental contamination.

8 Exposure controls/personal protection

Control parameters

Occupational Exposure Limits

Chemical Name	Exposure Limits
Trans-Dichloroethylene (156-60-5)	ACGIH TLV TWA: 200 ppm, 8h TWA: 793 mg/m ³ , 8h

Appropriate engineering controls

Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor, or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene Measures:	Wash hands, forearms, and face thoroughly after handling chemical products, before eating, smoking, and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
Eye/Face Protection:	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases, or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.
Hand Protection:	Chemical-resistant, impervious gloves, complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
Body Protection:	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

9 Physical and chemical properties

Physical and chemical properties

Physical State:	Liquid
Color	Clear. Colorless
Odor:	Ethereal. (Slight)
Odor Threshold:	Not available.
pH:	Not available.
Melting Point:	Not available.
Boiling Point:	+39°C (+102.2°F)
Flash Point:	Product does not sustain combustion
Evaporation Rate:	Not available.

Flammability (Solid, Gas):	Not available.
Lower Explosive Flammable Limits (LEL):	4.6%
Upper Explosive Flammable Limits (UEL):	12.8%
Vapor Pressure:	19.3kPa (144.85mm Hg) [room temperature]
Vapor Density:	Not available.
Relative Density:	1.22
Solubility:	Not available.
Partition Coefficient n-octanol/water:	Not available.
Auto-Ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	Not available.

10 Stability and reactivity

Reactivity

No specific test data related to reactivity available for this product or its ingredients.

Chemical stability

Stable under normal conditions

Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid

No specific data.

Incompatible materials

No specific data.

Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

Toxicological (health) effects

Acute Toxicity

Chemical Name	Result	Species	Dose	Exposure
Trans-Dichloroethylene (156-60-5)	LC50 Inhalation	Rat	24,100 ppm	4 h
	Gas	Rabbit	>5g/kg	-
	LD50 Dermal	Rat	1235mg/kg	-
	LD50 Oral			

Irritation/Corrosion

Chemical Name	Result	Species	Score	Exposure	Observation
Trans-Dichloroethylene (156-60-5)	Eyes -	Rabbit	-	10 milligrams	-
	Moderate	Rabbit	-	24 h 500	-
	Irritant			milligrams	
	Skin -				
	Moderate				
	Irritant				

Sensitization:	Not available.
Mutagenicity:	Not available.
Carcinogenicity:	Not available.
Reproductive Toxicity:	Not available.
Teratogenicity:	Not available.
Specific Target Organ Toxicity (Single Exposure):	Not available.
Specific Target Organ Toxicity (Repeated Exposure):	Not available.
Aspiration Hazard:	Not available.

Information on the likely routes of exposure

Not available.

Symptoms related to the physical, chemical and toxicological characteristics

Eye Contact:	Adverse symptoms may include the following: Pain or irritation, Watering, Redness
Inhalation:	Adverse symptoms may include the following: Respiratory tract irritation, Coughing
Skin Contact:	Adverse symptoms may include the following: Irritation, Redness
Ingestion:	No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short Term Exposure

Potential Immediate Effects:	Not available.
Potential Delayed Effects:	Not available.

Long Term Exposure

Potential Immediate Effects:	Not available.
Potential Delayed Effects:	Not available.

Potential Chronic Health Effects

Summary:	Not available.
General:	No Known Significant Effects of Critical Hazards.
Carcinogenicity:	No Known Significant Effects of Critical Hazards.
Mutagenicity:	No Known Significant Effects of Critical Hazards.
Teratogenicity:	No Known Significant Effects of Critical Hazards.
Developmental Effects:	No Known Significant Effects of Critical Hazards.
Fertility Effects:	No Known Significant Effects of Critical Hazards.

Numerical measures of toxicity (such as acute toxicity estimates)

Acute Toxicity Estimates

Route	ATE Value
Oral	2058.3 mg/kg

12 Ecological information

Toxicity

Chemical Name	Result	Species	Exposure
Trans-Dichloroethylene	Acute LC50 220,000 to 290,000 µg/l Fresh Water	Daphnia - Daphnia Magna	48 h

Persistence and degradability

Not available.

Bioaccumulative potential

Chemical Name	LogPow	BCF	Potential
Trans-Dichloroethylene	2.09	-	Low

Mobility in soil

Not available.

Other adverse effects

No known significant effects or critical hazards.

13 Disposal considerations

Disposal methods

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions, and any other by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Disposal of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

14 Transport information

UN Number

UN1950

UN Proper Shipping Name

Consumer Commodity
ORM-D
Aerosol, Non-Flammable

Transport hazard class(es)

2.2

Environmental hazards

No

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not Available.

15 Regulatory information

Safety, health and environmental regulations specific for the product in question

U.S. Federal Regulations

Clean Water Act (CWA) 307:	Trans-Dichloroethylene
Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs):	Not Listed
Clean Air Act Section 602 Class I Substances:	Not Listed
Clean Air Act Section 602 Class II Substances:	Not Listed
DEA List I Chemicals (Precursor Chemicals):	Not Listed
DEA List II Chemicals (Essential Chemicals):	Not Listed
SARA 302/304:	No Products Were Found
SARA 304 RQ:	Not Applicable
SARA 311/312:	Immediate (acute) health hazard

Composition/Information on ingredients

Trans-Dichloroethylene	Fire Hazard: Yes Sudden Release of Pressure: No Reactive: No Immediate (Acute) Health Hazard: Yes Delayed (Chronic) Health Hazard: No
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State Regulations

Massachusetts:	The following components are listed: Dichloroethylene-Trans
New York:	The following components are listed: Ethene, trans-1,2-dichloro-; Dichloroethylene
Pennsylvania:	The following components are listed: Ethene, 1,2-Dichloro-

International Regulations

Inventory Lists	Australia: All components are listed or exempted. Canada: All components are listed or exempted. China: All components are listed or exempted. Europe: Not determined. Japan: All components are listed or exempted. Malaysia: Not determined. New Zealand: All components are listed or exempted. Philippines: All components are listed or exempted. Republic of Korea: All components are listed or exempted. Taiwan: Not determined.
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Other information

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