

SAFETY DATA SHEET



Flux Remover G3®

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Identification of the substance or preparation

Product name : Flux Remover G3®
Product code : 1631-16S
Sizes : 368ml
Product type : Aerosol.
Material uses : General purpose flux remover.
Supplier/Manufacturer : ITW Contamination Control
 Skejby Nordlandsvej 307
 DK-8200 Aarhus N
 Denmark
 Tel: +45 87 400 220
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e-mail address of person responsible for this SDS : info@itw-cc.com

Emergency telephone number (with hours of operation) : CHEMTREC International: +1 (703) 527-3887

2. HAZARDS IDENTIFICATION

The product is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : Xn; R20/21/22, R68/20/21/22
 R52/53

Human health hazards : Harmful by inhalation, in contact with skin and if swallowed. Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.

Environmental hazards : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

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

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/preparation : Preparation

Ingredient name	CAS number	%	Number	Classification
Trans-dichloroethylene	156-60-5	30 - 60	205-860-2	F; R11 Xn; R20 R52/53 [1]
1,1,1,2-Tetrafluoroethane	811-97-2	10 - 30	212-377-0	Not classified. [2]
Methanol	67-56-1	1 - 5	200-659-6	F; R11 [1] [2] T; R23/24/25, R39/23/24/25
Carbon dioxide	124-38-9	1 - 5	204-696-9	Not classified. [2]
See section 16 for the full text of the R-phrases declared above				

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] PBT-substance

[4] vPvB-substance

Occupational exposure limits, if available, are listed in section 8.

4. FIRST AID MEASURES

- Inhalation** : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. 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 unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. 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.
- Ingestion** : Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway.
- Skin contact** : Flush contaminated skin with plenty of water. Continue to rinse for at least 20 minutes. Get medical attention.
- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Continue to rinse for at least 20 minutes. Get medical attention.
- 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.
- 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.

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

5. FIRE-FIGHTING MEASURES

Extinguishing media

- Suitable** : Use dry chemical, CO₂, alcohol-resistant foam or water spray (fog).
- Not suitable** : None known.
- Special exposure hazards** : In a fire or if heated, a pressure increase will occur and the container may burst. Bursting aerosol containers may be propelled from a fire at high speed.
Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is harmful to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
halogenated compounds
carbonyl halides
- Special protective equipment for fire-fighters** : Fire-fighters 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** : No action shall be taken involving any personal risk or 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 pressurised 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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).
- Environmental precautions** : Avoid dispersal of spilt 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). Water polluting material.

Methods for cleaning up

6. ACCIDENTAL RELEASE MEASURES

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, 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 the 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 spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7. HANDLING AND STORAGE

- Handling** : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Pressurised container: protect from sunlight and do not expose to temperature 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 vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Empty containers retain product residue and can be hazardous.
- Storage** : 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.
- Packaging materials**
- Recommended** : Use original container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
1,1,1,2-Tetrafluoroethane	EH40/2005 WELs (United Kingdom (UK), 8/2007). TWA: 4240 mg/m ³ 8 hour(s). TWA: 1000 ppm 8 hour(s).
Methanol	EH40/2005 WELs (United Kingdom (UK), 8/2007). Absorbed through skin. STEL: 333 mg/m ³ 15 minute(s). STEL: 250 ppm 15 minute(s). TWA: 266 mg/m ³ 8 hour(s). TWA: 200 ppm 8 hour(s).
Carbon dioxide	EH40/2005 WELs (United Kingdom (UK), 8/2007). STEL: 27400 mg/m ³ 15 minute(s). STEL: 15000 ppm 15 minute(s). TWA: 9150 mg/m ³ 8 hour(s). TWA: 5000 ppm 8 hour(s).

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

- Occupational exposure controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour 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.
- 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. 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.
- 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.
- Eye 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 or dusts.
- Skin 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.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information

Appearance

- Physical state** : Liquid. [Aerosol.]
- Colour** : Clear. Colourless.
- Odour** : Ethereal. [Slight]

Important health, safety and environmental information

- Flash point** : No flashpoint. ASTM D-3065 Flame Projection Test
- Vapour pressure** : 122.4 kPa (917.86 mm Hg)
- Relative density** : 1.236
- Volatility** : 100% (v/v)
- Evaporation rate** : >1 (butyl acetate = 1)
- VOC content** : 69.2 % (w/w), (855.2 g/L)

10. STABILITY AND REACTIVITY

- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : May decompose if heated.
- Materials to avoid** : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. TOXICOLOGICAL INFORMATION

Toxicokinetics

- Absorption** : Not available.
- Distribution** : Contains material which may cause damage to the following organs: gastrointestinal tract, cardiovascular system, upper respiratory tract, skin, eyes, central nervous system (CNS).
- Metabolism** : Not available.
- Elimination** : Not available.

Potential acute health effects

- Inhalation** : Harmful by inhalation. Possible risk of irreversible effects. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Harmful if swallowed. Possible risk of irreversible effects.
- Skin contact** : Harmful in contact with skin. Possible risk of irreversible effects.

11. TOXICOLOGICAL INFORMATION

Eye contact : No known significant effects or critical hazards.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Trans-dichloroethylene	LD50 Dermal LD50 Oral	Rabbit Rat	>5 g/kg 1235 mg/kg	- -
Methanol	LC50 Inhalation Gas. LD50 Dermal LD50 Oral	Rat Rabbit Rat	64000 ppm 15800 mg/kg 5600 mg/kg	4 hours - -

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : No specific data.

Eyes : Adverse symptoms may include the following:
irritation
redness

12. ECOLOGICAL INFORMATION

Ecotoxicity : Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Trans-dichloroethylene	Acute LC50 220000 ug/L Fresh water Chronic NOEC <110000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours Daphnia - Daphnia magna - <=24 hours	48 hours 48 hours
Methanol	Acute LC50 2500000 ug/L Marine water Acute LC50 3289 to 4395 mg/L Fresh water Acute LC50 >100000 ug/L Fresh water	Crustaceans - Crangon crangon - Adult Daphnia - Daphnia magna - Neonate - <24 hours Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	48 hours 48 hours 96 hours

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

PBT : Not applicable.

vPvB : Not applicable.





13. DISPOSAL CONSIDERATIONS

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Do not puncture or incinerate container.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. TRANSPORT INFORMATION

International transport regulations

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	UN1950	Aerosols, [non-flammable, (each not exceeding 1 L capacity)] (Carbon dioxide)	2	-		-
ADN/ADNR Class	UN1950	Aerosols, [non-flammable, (each not exceeding 1 L capacity)] (Carbon dioxide)	2	-		-
IMDG Class	UN1950	Aerosols, [non-flammable, (each not exceeding 1 L capacity)] (Carbon dioxide)	2.2	-		-
IATA Class	UN1950	Aerosols, [non-flammable, (each not exceeding 1 L capacity)] (Carbon dioxide)	2.2	-		-

PG* : Packing group

Exemption to the above classification may apply.

15. REGULATORY INFORMATION

EU regulations

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

Hazard symbol or symbols :



Harmful

Risk phrases

- : R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
- : R68/20/21/22- Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
- : R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

- : S23- Do not breathe vapour or spray.
- : S60- This material and its container must be disposed of as hazardous waste.
- : S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

Contains

- : Trans-dichloroethylene
- : Methanol

Product use

- : Industrial applications.

Europe inventory

- : All components are listed or exempted.

Black List Chemicals

- : Not listed

Priority List Chemicals

- : Not listed

Integrated pollution prevention and control list (IPPC) - Air

- : Listed

Integrated pollution prevention and control list (IPPC) - Water

- : Not listed

Other EU regulations

Additional warning phrases

- : Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

15. REGULATORY INFORMATION

International regulations

Chemical Weapons Convention: Not listed
List Schedule I Chemicals

Chemical Weapons Convention: Not listed
List Schedule II Chemicals

Chemical Weapons Convention: Not listed
List Schedule III Chemicals

16. OTHER INFORMATION

Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK) : R11- Highly flammable.
R23/24/25- Toxic by inhalation, in contact with skin and if swallowed.
R39/23/24/25- Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
R20- Harmful by inhalation.
R20/21/22- Harmful by inhalation, in contact with skin and if swallowed.
R68/20/21/22- Harmful: possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.
R52/53- Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications referred to in sections 2 and 3 - United Kingdom (UK) : F - Highly flammable
T - Toxic
Xn - Harmful

History

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Version : 1

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.