

SAFETY DATA SHEET



EcoLine™ Flux Remover

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

Identification of the substance or mixture

Product name : EcoLine™ Flux Remover
Product code : 1621-400S
Sizes : 400 ml
Product type : Aerosol.
Material uses : Flux remover.
Supplier/Manufacturer : ITW Contamination Control
 Skejby Nordlandsvej 307
 DK-8200 Aarhus N
 Denmark
 Tel: +45 87 400 220
 Fax: +45 87 400 222

e-mail address of person responsible for this SDS : jeden@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 : F; R11
 Xn; R65
 Xi; R38
 R67
 N; R50/53

Physical/chemical hazards : Highly flammable.

Human health hazards : Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness.

Environmental hazards : Very toxic 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 : Mixture

Ingredient name	CAS number	%	EC number	Classification
Heptane	142-82-5	30 - 60	205-563-8	F; R11 Xn; R65 Xi; R38 R67 N; R50/53 [1] [2]
Ethyl Alcohol	64-17-5	10 - 30	200-578-6	F; R11 [2]
Propan-2-ol	67-63-0	5 - 10	200-661-7	F; R11 [1] [2] Xi; R36 R67
Methanol	67-56-1	1 - 5	200-659-6	F; R11 [1] [2] T; R23/24/25, R39/23/24/25
Propyl acetate	109-60-4	1 - 5	203-686-1	F; R11 [1] [2] Xi; R36 R66, R67
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

3. COMPOSITION/INFORMATION ON INGREDIENTS

[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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. 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 if irritation occurs.
- 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 an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Highly flammable liquid. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. This material is very toxic 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. Shut off all ignition sources. No flares, smoking or flames in hazard area. 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. May be harmful to the environment if released in large quantities.
- Methods for cleaning up**
- 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. Use spark-proof tools and explosion-proof equipment. 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). Use spark-proof tools and explosion-proof equipment. 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. Avoid release to the environment. Refer to special instructions/safety data sheet. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Empty containers retain product residue and can be hazardous.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. 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>
Heptane	EH40/2005 WELs (United Kingdom (UK), 8/2007). TWA: 500 ppm 8 hour(s).
Ethyl Alcohol	EH40/2005 WELs (United Kingdom (UK), 8/2007). TWA: 1920 mg/m ³ 8 hour(s). TWA: 1000 ppm 8 hour(s).
Propan-2-ol	EH40/2005 WELs (United Kingdom (UK), 8/2007). STEL: 1250 mg/m ³ 15 minute(s). STEL: 500 ppm 15 minute(s). TWA: 999 mg/m ³ 8 hour(s). TWA: 400 ppm 8 hour(s).
Methanol	EH40/2005 WELs (United Kingdom (UK), 8/2007). Absorbed through skin.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Propyl acetate

STEL: 333 mg/m³ 15 minute(s).
 STEL: 250 ppm 15 minute(s).
 TWA: 266 mg/m³ 8 hour(s).
 TWA: 200 ppm 8 hour(s).
EH40/2005 WELs (United Kingdom (UK), 8/2007).
 STEL: 1060 mg/m³ 15 minute(s).
 STEL: 250 ppm 15 minute(s).
 TWA: 849 mg/m³ 8 hour(s).
 TWA: 200 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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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.

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. [Clear.]
Colour : Colourless.
Odour : Characteristic.

Important health, safety and environmental information

Flash point : Closed cup: -5.56°C (22°F) [Tagliabue.]
Relative density : 0.71
Solubility : Soluble in the following materials: cold water and hot water.
Volatility : 100% (v/v)
Vapour density : 2.1 [Air = 1]
VOC content : 100 % (w/w) (713.4 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** : Avoid all possible sources of ignition (spark or flame). Avoid release to the environment. Refer to special instructions/safety data sheet. Do not swallow.
- 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: blood, lungs, the reproductive system, liver, gastrointestinal tract, upper respiratory tract, skin, eyes, central nervous system (CNS).
- Metabolism** : Not available.
- Elimination** : Not available.

Potential acute health effects

- Inhalation** : Vapours may cause drowsiness and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : Aspiration hazard if swallowed. Can enter lungs and cause damage. Irritating to mouth, throat and stomach.
- Skin contact** : Irritating to skin.
- Eye contact** : May cause eye irritation.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Heptane	LC50 Inhalation Vapour	Rat	103 g/m ³	4 hours
Ethyl Alcohol	LC50 Inhalation Vapour	Rat	124700 mg/m ³	4 hours
	LD50 Oral	Rat	7 g/kg	-
Propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
Methanol	LC50 Inhalation Gas.	Rat	64000 ppm	4 hours
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LD50 Oral	Rat	5600 mg/kg	-
Propyl acetate	LD50 Oral	Rat	9370 mg/kg	-
		Rat	9370 mg/kg	-

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:
nausea or vomiting
respiratory tract irritation
coughing
headache
drowsiness/fatigue
dizziness/vertigo
- Ingestion** : Adverse symptoms may include the following:
nausea or vomiting
- Skin** : Adverse symptoms may include the following:
irritation
redness

11. TOXICOLOGICAL INFORMATION

Eyes : Adverse symptoms may include the following:
irritation
redness

12. ECOLOGICAL INFORMATION

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

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Heptane	Acute LC50 375000 ug/L Fresh water	Fish - Tilapia mossambica - 99 mm - 10 g	96 hours
	Acute EC50 2000 ug/L Fresh water	Daphnia - Daphnia magna	48 hours
Ethyl Alcohol	Acute LC50 25500 ug/L Marine water	Crustaceans - Artemia franchiscana - LARVAE	48 hours
	Acute LC50 42000 ug/L Fresh water	Fish - Oncorhynchus mykiss	4 days
Propan-2-ol	Chronic NOEC <6.3 g/L Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1400000 to 1950000 ug/L Marine water	Crustaceans - Crangon crangon	48 hours
Methanol	Acute LC50 >1400000 ug/L	Fish - Gambusia affinis - 20 to 30 mm	96 hours
	Acute LC50 2500000 ug/L Marine water	Crustaceans - Crangon crangon - Adult	48 hours
Propyl acetate	Acute LC50 3289 to 4395 mg/L Fresh water	Daphnia - Daphnia magna - Neonate - <24 hours	48 hours
	Acute LC50 >100000 ug/L Fresh water	Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) - 0.2 to 0.5 g	96 hours
	Acute LC50 60000 to 64000 ug/L Fresh water	Fish - Pimephales promelas - 30 days - 20.4 mm - 0.148 g	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, flammable, N.O.S. (each not exceeding 1 L capacity) (Heptane, 1,1-Difluoroethane)	2	-		-
ADN/ADNR Class	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Heptane, 1,1-Difluoroethane)	2	-		-
IMDG Class	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Heptane, 1,1-Difluoroethane). Marine pollutant (Heptane)	2.1	-	 	-

14. TRANSPORT INFORMATION

IATA Class	UN1950	Aerosols, flammable, N.O.S. (each not exceeding 1 L capacity) (Heptane, 1,1-Difluoroethane)	2.1	-	 	-
-------------------	--------	---	-----	---	--	---

PG* : Packing group

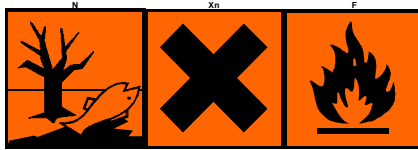
Exemption to the above classification may apply.

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 :



Highly flammable, Harmful, Dangerous for the environment

Risk phrases :

R11- Highly flammable.
 R65- Harmful: may cause lung damage if swallowed.
 R38- Irritating to skin.
 R67- Vapours may cause drowsiness and dizziness.
 R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases :

S16- Keep away from sources of ignition - No smoking.
 S36: Wear suitable protective clothing.
 S23- Do not breathe vapour.
 S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

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.

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.
R65- Harmful: may cause lung damage if swallowed.
R36- Irritating to eyes.
R38- Irritating to skin.
R66- Repeated exposure may cause skin dryness or cracking.
R67- Vapours may cause drowsiness and dizziness.
R50/53- Very toxic 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
Xi - Irritant
N - Dangerous for the environment

History

Date of issue (dd/mm/yyyy) : 01/08/2010

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.