

**Safety data sheet  
 as per 1907/2006/EC**

Written on: **01.03.2004**  
 Revised on: **01.12.2011**

SDS no. **009\_E**  
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**Trade Name:**  
**Flux Set / Flux Pen / Flux Bottle**

<b>1 Identification of the substance/preparation and of the company/undertaking</b>		
Production specifications:	Fluxing agent "EL" F-SW 32 - DIN EN 29 454 1.1.3.A	
Trade Name:	Flux Set, ordering no. 0051301699; Flux Pen, no. 0051382699 Flux Bottle, ordering no. 00 513 831 99	
Manufacturer/supplier:	Weller Tools GmbH, Carl-Benz-Str. 2, 74354 Besigheim Tel: +49 7143 580-0, Fax: +49 7143 580-108	
Information supplied by:	Environmental Protection Department Tel.: +49 7143 580 101, Fax: +49 7143 580 108	
Emergency Phone:	GIZ Mainz Tel.: +49 6131 - 19240	

<b>2 Potential hazards</b>		
Hazard designation:	F = Highly inflammable, Xi = Irritant	
Special hazards information for persons and environment:	Highly flammable (R11), Irritating to eyes (R36) Vapours may cause drowsiness and dizziness (R67)	

<b>3 Composition/component data</b>						
Chemical characteristics:		Solution of colophony in isopropyl alcohol				
▪ Description:						
▪ Hazardous contents:						
CAS No.	Designation	%	Code letter	R paragraphs	EINECS-No.	
67-63-0	2-propanol	59-71	F; Xi	11-36-67	200-661-7	
65997-07-1	Colophony	11-18			293-659-0	

<b>4 First aid measures</b>		
General information:	Personal protection for the First Aider. Instantly remove any clothing soiled by the product.	
After inhalation:	Take affected persons into the open air and position comfortably. Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. In case of unconsciousness bring patient into stable side position for transport.	
After skin contact:	Instantly remove any clothing soiled by the product. Instantly wash with water and soap and rinse thoroughly. If skin irritation continues, consult a doctor.	
After eye contact:	Rinse opened eye for several minutes under running water. If symptoms persist, conduct Oculist.	
After swallowing:	Rinse out mouth and then drink plenty of water. Do not induce vomiting. Seek medical treatment. A vomiting person on the side, lying on the back, turn. If vomiting, hold the head of the vomiting person low with the body in a prone position in order to avoid the entry of liquid into the respiratory tract.	

<b>5 Fire-fighting measures</b>		
Suitable extinguishing agent:	CO <sub>2</sub> , extinguishing powder or water fog. Fight larger fires with water fog or alcohol resistant foam.	
Unsuitable extinguishing agents for safety reasons:	Water with a full water jet.	
Special hazard resulting from the substance, its combustion products or resulting gases:	Can form explosive gas-air mixtures. Formation of toxic gases is possible during heating or in case of fire. Can be released in case of fire: Carbon monoxide and carbon dioxide.	
Special protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.	
Additional information:	Collect contaminated fire fighting water separately. It must not enter drains. Cool endangered containers with water spray jet. Heating causes a rise in pressure, risk of bursting. Container explosion may occur under fire conditions.	

<b>6 Accidental release measures</b>		
Personal precautions:	Put on breathing apparatus. Wear protective equipment. Keep unprotected persons away. Keep away from ignition sources. Ensure adequate ventilation. Bring persons out of danger.	

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Environmental precautions:	Prevent material from reach in sewage system, holes and cellars. Do not allow to enter waters, waste water or soil. Inform respective authorities in case product in larger quantities reaches water, sewage system or soil. Do not allow to enter the ground/soil.
Procedure for cleaning/gathering up:	Ensure adequate ventilation. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Clean up affected area. May be recycled or disposed of in appropriate containers. Dispose of contaminated material as waste according to item 13.
Additional information:	See section 7 for information on safe handling. See section 8 for information on personal protection equipment. See section 13 for information on disposal.

**7 Handling and storage**

<b>Handling</b>	
Information for safe handling:	Keep containers tightly sealed. Prevent formation of aerosols. Ensure good ventilation/exhaustion at the workplace. Ensure good interior ventilation, especially at floor level (fumes are heavier than air). Restrict the quantity stored in the work place.
Information for fire and explosion protection:	Fumes can combine with air to form an explosive mixture. Completely miscible with water. Explosive mixtures with air on the water surface possible. Protect from heat. Keep ignition sources away. Do not smoke. Protect against electrostatic charges. Use only in explosion-proof area. Use explosion-proof apparatus / fittings and spark-proof tools. Flammable mixtures may be formed in empty containers.
<b>Storage</b>	
Requirements for store rooms and containers:	Store in cool location. Store possibly in the original container. Provide solvent resistant, sealed floor. Prevent any penetration into the ground.
Storage with other substances:	Keep away from foodstuffs. Together with materials/products do not camp down which can lead with the material/product to dangerous chemical reactions. See point moreover 10th stability and reactivity.
Further details on storage conditions:	Store in cool, dry conditions in well sealed containers. Protect from heat and direct sunlight. Store in a cool place. Heat will increase pressure and may lead to the container exploding. Protect from humidity and keep away from water. The product is hygroscopic

**8 Exposure controls/personal protection**

Additional information for layout of technical equipment:		No further data, see item 7.		
Constituents with workplace-related limit values that have to be monitored:				
CAS No.	Substance designation	Type – WEL:	Limit value	Unit
67-63-0	2-propanol / Isopropyl alcohol	Short-term value	1250 (500)	mg/m <sup>3</sup> (ppm)
		Long-term value	999 (400)	mg/m <sup>3</sup> (ppm)
Additional information:		The lists that were valid during the compilation were used as basis.		
Personal protective equipment:		n.a.		
General protection and hygiene measures:		Keep away from foodstuffs, beverages and food. Wash hands during breaks and at the end of the work. Instantly remove and soiled and impregnated garments. Do not inhale gases/fumes/aerosols. Avoid contact with the eyes and skin. Do not eat, drink or smoke while working.		
▪ Breathing protection		If used in closed systems or well-ventilated areas breathing protection is not necessary. Use breathing protection in case of insufficient ventilation. In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air. Filter A		

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▪ Hand protection	<p>Solvent resistant gloves. To avoid skin problems reduce the wearing of gloves to the required minimum. Preventive skin protection by use of skin-protecting agents is recommended. Check protective gloves prior to each use for their proper condition. The glove material has to be impermeable and resistant to the product/the substance/the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.</p> <p><b>Material of gloves</b> Full contact:                  eg Butyl rubber, BR, recommended thickness of the material: <math>\geq 0.5</math> mm.                  eg Fluorocarbon rubber (Viton) recommended thickness of the material: <math>\geq 0,4</math> mm.                  eg Nitrile rubber, NBR, recommended thickness of the material: <math>\geq 0,4</math> mm.                  Splash contact: eg Chloroprene rubber, CR, recommended thickness of the material: <math>\geq 0,5</math> mm. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. Suitable materials with the manufacturer ask.</p> <p><b>Penetration time of glove material</b>                  Full contact: Permeation time: <math>&gt;480</math> Min (8h) EN 374                  Splash contact: Permeation time <math>&gt;120</math> Min (2h) - <math>&lt;240</math> Min (4h)                  The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.</p> <p><b>Not suitable are gloves made of the following materials:</b>                  Strong gloves, leather gloves, eg Natural rubber, NR, PVC or PE gloves.</p>
▪ Eye protection	Tightly sealed safety glasses.
▪ Body protection	<p>Solvent resistant protective clothing. Antistatic protective clothing. Flameproof protective clothing. Apron, boots or suitable chemical protection suit. Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the clothing to chemicals should be ascertained with the respective supplier.</p>

9 Physical and chemical properties:			
Form:	Liquid		
Colour:	Amber colors		
Odour:	Alcoholic		
	Value/range	Unit	Method
Flashpoint:	12	°C	
Ignition point	425	°C	
Viscosity:	$\sim 2,43$	mPas	
Density at 20 °C:	0,785	g/ml	
Lower Ex-limit:	2	Vol %	
Upper Ex-limit:	12	Vol %	
Solubility in water at 20 °C:	fully miscible	g/l	
Change of state:	n.a.		
Melting point:	approx. -89,4	°C	
Boiling point/range:	approx. 82	°C	
Solvent content:	n.c.	%	
Bulk density:	n.c.		
Steam pressure at 20 °C:	43	hPa	
pH-value:	approx. 7		
10 Stability and reactivity			
Thermal decomposition conditions to be avoided:	No decomposition if used according to specifications. Can be distilled without decomposing at normal pressure.		
Material to be avoided:	Alkali metals, alkaline earth metals, light metals in powder form, aluminium, organic nitro compounds, aldehyde, amines.		
Dangerous reactions:	Forms explosive gas mixture with air. Reacts with oxidizing agents.		
Dangerous products of composition:	Inflammable gases/vapours. Can be released in case of fire: carbon monoxide and carbon dioxide.		

11 Toxicological information					
Acute toxicity:	Kind	Value	Kind of treatment	Species	
	LD50	4570-5045 mg/kg	oral	Rodent-Rat	
	LD50	12800-13400 mg/kg	dermal	Rabbit	
	LC50/4h	30-46,5 mg/l	inhalative	Rodent-Rat	

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Primary irritant effects:	
▪ On the skin:	slightly irritant (no EC classification). At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
▪ On the eye:	Irritant effect
▪ Sensory effects	Creation of allergy through colophony and its derivatives is possible.
▪ Subacute to chronic toxicity:	
▪ Additional toxicological information:	Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc. Further hazardous properties cannot be excluded. The product should be handled with the care usual when dealing with chemicals.

**12 Ecological information**

**Information about elimination (persistence and degradability):**

**Method:** Abiotic degradation. Biologic degradation.

**Analysing method:** Mod. OECD Screening Test (OECD 301E)

**Other information:**

Rapid degradation (Air). The product is easily biodegradable according to OECD.

**Behaviour in environmental systems:**

**Mobility and bioaccumulation potential:** Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

**Ecotoxic effects:**

**Aquatic toxicity:**

EC50: 15 min. 22000 mg/l (bacterial toxicity: (photobac. phosphor)) 48h 13299 mg/l (Daphnia toxicity: Daphnia magna) IC50: 72h > 1000 mg/l (algal toxicity: (desmodesmus subspic.)) LC50: 96h 9640 mg/l (fish toxicity: (pimephales promelas))

**Remark:** During appropriate introduction into adapted biological purification plants no disturbances of the dismantling activity of the activated sludge are to be expected.

**General notes:**

No ecological problems are to be expected when the product is handled and used with due care and attention. Do not allow product to reach ground water, water bodies or sewage system.

**13 Notes on disposal**

Product:

▪ Recommendation: Use. Must not be disposed of in the household waste. Never permit release to sewage system.

Waste reference number: Recommendation AVV code : 14 06 03

Waste name: Other solvents and solvent mixes  
 Group: Waste consisting of organic solvents, coolants, foaming and aerosol propellants

Uncleaned packaging:

▪ Recommendation: Disposal must be made according to official regulations.

▪ Disposal route: Special waste incinerator

Recommended cleaning agent: Water, if necessary with cleaning agent.

**14 Transport information**

In bottles of 100 ml in cartons of 20 bottles no hazardous material as per LQ 4

**Land transport ADR/RID and GGVE (internal/international)**

▪ ADR/RID-GGVS/E Class: 3 / PG II

▪ Classification code: F1

▪ Kemler number: 33

▪ UN number: 1219

▪ Designation of goods: 1219 Isopropanol (Isopropyl alcohol)

**Maritime transport IMDG/GGVSea**

▪ IMDG/GGVSea Class: 3.2

▪ UN number: 1219

▪ Packaging group: II

▪ EMS number: F-E/S-D

▪ MFAG: n.c.

▪ Marine pollutant: No

▪ Correct technical name: UN 1219, Isopropanol (Isopropyl alcohol)

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Air transport ICAO-TI and IATA-DGR	
▪ ICAO/IATA Class:	3
▪ UN/ID number:	1219
▪ Packaging group:	II
▪ Correct technical name:	Isopropanol (Isopropyl alcohol)

15	Regulatory information	
	▪ Identification to EC directives:	This product is classified and marked in accordance with EC directives/Hazardous Goods Ordinance.
	▪ Identification letter and hazard designation of product:	F = Highly inflammable Xi = Irritant
	▪ Hazard components for labelling:	
	▪ R paragraphs:	11 = Highly inflammable 36/38 = Irritating to eyes and skin. 67 = Vapours may cause drowsiness and dizziness.
	▪ S paragraphs:	1/2 = Keep locked up and out of reach of children. 7 = Keep container tightly closed 16 = Keep away from sources of ignition . no smoking.. 26 = In the event of contact with eyes or skin rinse immediately with water and consult a medical practitioner 23 = Do not breathe gas/fumes/vapour/spray 46 = If swallowed, seek medical advice immediately and show them the packaging or label. 24/25 = Avoid contact with the eyes and skin
	▪ Special identification special preparations:	n.r.
	National regulations	
	▪ Occupational restrictions	
	▪ Hazardous Incident Ordinance:	n.a.
	▪ Technical atmospheric instructions:	
	▪ Water pollution class:	1

16	Other information	

**The specifications are based on the present-day status of our knowledge, but do not represent any assurance of product properties and are not a basis for any contractual legal relationship.**

**Department issuing data sheet: Environmental Protection Department  
 Contact person: V. Heller**

n.a.	= not applicable
n.c.	= not determined
n.r.	= not required