



Material Safety Data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

Date: 02.02.2022

1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance: Flux-E / Ethanol 100%

Relevant identified uses

serves as a flux soldering additive for HydroFire, Aquaflame and related soldering devices.

Supplier:

Xenitron
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Deutschland

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E-Mail: info@xenitron.de
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Emergency contact:

National Poisons Information Centre
Beaumont Hospital
Beaumont Road
Dublin 9
Phone: 01 809 2166
<https://www.poisons.ie/>

2. Hazards identification

Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP)

Flam. Liquid 2 H225 Highly flammable liquid and vapour.
Eye Irrit. 2 H319 Causes serious eye irritation.



GHS02



GHS07

Signal word: Danger

Hazard statements

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

(Continued on next page)

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

Sicherheitshinweise

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection..
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to local/regional/national/international regulations

other hazards

Results of PBT and vPvB assessment:

According to the results of its assessment, this substance is not a PBT or a vPvB.

3. Composition/information on ingredients

Description: Mixture of substances listed below with non-hazardous additions.

Substances:

CAS:	64-17-5	Ethanol	>90%
EC:	200-578-6	Flam. Liq. 2, H225; Eye Irrit. 2, H319	
Reg.nr.:	01-2119457610-43		
CAS:	78-93-3	2-Butanone	2,72%
EC:	201-159-0	Flam. Liq. 2, H225; Eye Irrit. 2, H319;	
Reg.nr.:	01-2119457290-43	STOT SE 3, H336	
CAS:	67-63-0	2-Propanol	2,65%
EC:	200-661-7	Flam. Liq. 2, H225; Eye Irrit. 2, H319;	
Reg.nr.:	01-2119457558-25	STOT SE 3, H336	
CAS:	10043-35-3	Boric acid	<5,5%
EC:	233-139-2	Repr. 1B, H360FD	
Reg.nr.:	01-2119486683-25		

Specific concentration limits:

Boric acid: Repr. 1B; H360FD: C \geq 5,5%

Additional information: For the listed risk phrases refer to section 16.

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

4. First aid measures



General notes:

Take off contaminated clothing.

Following inhalation: Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact:

Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, seek medical advice.

Following eye contact:

Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. In case of eye irritation consult an ophthalmologist.

Following ingestion: Rinse mouth. Call a doctor if you feel unwell.

Most important symptoms and effects, both acute and delayed:

Irritation, Nausea, Vomiting, Abdominal pain, Breathing difficulties, Vertigo, Drowsiness, Narcosis, Loss of righting reflex, and ataxia

Indication of any immediate medical attention and special treatment needed:

none

5. Firefighting measures



Suitable extinguishing media:

co-ordinate firefighting measures to the fire surroundings
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media:

water jet, water

Special hazards arising from the substance or mixture:

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. Solvent vapours are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapours are heavier than air, spread along floors and form explosive mixtures with air. Vapours may form explosive mixtures with air.

Hazardous combustion products:

In case of fire may be liberated: Carbon monoxide (CO), Carbon dioxide (CO₂)

Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

6. Accidental release measures



For non-emergency personnel:

Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray. Avoidance of ignition sources.

Environmental precautions:

Keep away from drains, surface and ground water. Danger of explosion.

Methods and material for containment and cleaning up:

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment patible materials: see section 10. Disposal considerations: see section 13.

7. Handling and storage

Precautions for safe handling

Provision of sufficient ventilation.



Keep away from sources of ignition - No smoking.

Measures to prevent fire as well as aerosol and dust generation

Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities:

Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight

Incompatible substances or mixtures:

Observe hints for combined storage.

Consideration of other advice:

Ground/bond container and receiving equipment.

Ventilation requirements:

Use local and general ventilation.

Specific designs for storage rooms or vessels:

Recommended storage temperature: 15 – 25 °C

Specific end use(s):

No information available..

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

8. Exposure controls/personal protection

Control parameters National limit values

64-17-5 Ethanol

DNELs

64-17-5 Ethanol

Dermal	DNEL (Worker)	343mg/kg bw/day (chronic - systemic effects)
Inhalatory	DNEL (Worker)	1900mg/m ³ (acute - systemic effects)
	DNEL (Worker)	950mg/m ³ (chronic - systemic effects)

78-93-3 2-Butanone

Dermal	DNEL (Worker)	1161mg/kg bw/day (chronic - systemic effects)
Inhalatory	DNEL (Worker)	600mg/m ³ (chronic - systemic effects)

67-63-0 2-Propanol

Dermal	DNEL (Worker)	888mg/kg bw/day (chronic - systemic effects)
Inhalatory	DNEL (Worker)	500mg/m ³ (chronic - systemic effects)

10043-35-3 Boric acid

Dermal	DNEL (Worker)	392 mg/kg bw/day (chronic - systemic effects)
Inhalativ	DNEL (Worker)	8,3 mg/m ³ (chronic - systemic effects)

PNECs

64-17-5 Ethanol

PNEC Water	2,75 mg/l (intermittent release)
	0,96 mg/l (freshwater)
	0,79 mg/l (marine water)
PNEC Sediment	3,6 mg/kg dw (freshwater)
PNEC Soil	0,63 mg/kg dw (soil)
PNEC STP	580mg/l (sewage treatment plant (STP))

78-93-3 2-Butanone

PNEC Water	55,8 mg/l (freshwater)
	55,8 mg/l (marine water)
PNEC Sediment	284,74 mg/kg dw (freshwater)
	284,7 mg/kg dw (marine water)
PNEC Soil	22,5 mg/kg dw (soil)
PNEC STP	709 mg/l (sewage treatment plant (STP))

(Continued on next page)

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

67-63-0 2-Propanol

PNEC Water	140,9 mg/l (freshwater) 140,9 mg/l (marine water)
PNEC	2251 mg/l (sewage treatment plant (STP))
PNEC Sediment	552 mg/kg dw (freshwater) 552 mg/kg dw (marine water)
PNEC	140,9 mg/l (intermittent release)
PNEC Soil	28 mg/kg (soil)

10043-35-3 Boric acid

PNEC Water	2,9 mg/l (freshwater) (short-term (single instance)) 2,9 mg/l (marine water) (short-term (single instance))
PNEC	10 mg/l (sewage treatment plant (STP)) (short-term (single instance))
PNEC Soil	5,7mg/kg (Soil) (short-term (single instance))

Exposure controls

Individual protection measures (personal protective equipment):

Eye/face protection:



Use safety goggle with side protection.

Skin protection:



hand protection:

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

type of material:

Butyl caoutchouc (butyl rubber)

material thickness: 0,7mm

breakthrough times of the glove material: >480 minutes (permeation: level 6)

other protection measures:

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Flame-retardant protective clothing.

(Continued on next page)

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

Respiratory protection:



Respiratory protection necessary at: Aerosol or mist formation.
Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

Environmental exposure controls:

Keep away from drains, surface and ground water.

9. Physical and chemical properties

Information on basic physical and chemical properties:

Physical state:	liquid
Colour:	colourless
Odour:	like: -alcohol
pH:	7 (in aqueous solution: 10 g/l, 20 °C)
Melting point/freezing point:	-114 °C
Boiling point or initial boiling point and boiling range:	78 °C at 1.013 hPa
Flash point :	13 °C
Flammability:	flammable liquid in accordance with GHS criteria
Auto-ignition temperature:	425 °C at 1.013 Pa (DIN 51794)
Decomposition temperature:	not relevant
Explosive limits:	The product is not explosive, but the formation of explosive vapour/air mixtures is possible.
Explosive limits: lower:	1,8 Vol%
upper:	15,0 Vol%
Density at 20 °C:	0,79 g/cm ³
relative Dichte:	not relevant
Vapour density:	not relevant
evaporation rate:	not relevant
Löslichkeit in / Mischbarkeit mit Water solubility	insoluble
Partition coefficient n-Octanol/Water:	not relevant

Other safety parameters:

Oxidising properties none

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

10. Stability and reactivity

Reactivity

It's a reactive substance. Risk of ignition. Vapours may form explosive mixtures with air.

Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

Possibility of hazardous reactions:

Violent reaction with: strong oxidiser, Alkali metals, Alkaline earth metal, Acetic anhydride, Peroxides, Phosphorus oxides (e.g. P₂O₅), Nitric acid, Nitrate, Perchlorates,

=> Explosive properties

Conditions to avoid:

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Incompatible materials:

There is no additional information.

Hazardous decomposition products:

Hazardous combustion products: see section 5.

11 Toxicological information

Information on hazard classes as defined in Regulation (EC) No 1272/2008

Classification according to GHS (1272/2008/EC, CLP).

Acute toxicity: Shall not be classified as acutely toxic.

LD/LC50:

64-17-5 Ethanol

Oral	LD50	10470 mg/kg (rat) (OECD 401)
Dermal	LD50	> 2000 mg/kg (rabbit) (OECD 402)
Inhalatory	LC50/4h	> 50 mg/l (rat) (OECD 403) > 20 mg/l (mouse)

78-93-3 2-Butanone

Oral	LD50	3300 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rabbit)
Inhalatory	LC50/4h	34,5 mg/l (rat) 40 mg/l (mouse)

67-63-0 2-Propanol

Oral	LD50	4570 mg/kg (rat)
Dermal	LD50	>2000 mg/kg (rabbit) 13400 mg/kg (rabbit)
Inhalatory	LC50/4h	30 mg/l (rat)

10043-35-3 Boric acid

Oral	LD50	3450 mg/kg (rat)
Dermal	LD50	≥ 2000 mg/kg (rabbit)

Skin corrosion/irritation:

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity:

Shall not be classified as germ cell mutagenic.

Carcinogenicity:

Shall not be classified as carcinogenic.

Reproductive toxicity:

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure:

Shall not be classified as a specific target organ toxicant (single exposure).

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

Specific target organ toxicity - repeated exposure:

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard:

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If swallowed:

vomiting, abdominal pain, nausea, Causes damage to liver through prolonged or repeated exposure if swallowed, loss of righting reflex, and ataxia

If in eyes:

Causes serious eye irritation

If inhaled:

drowsiness, narcosis, vertigo, breathing difficulties, Inebriation

If on skin:

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)

12. Ecological information

Toxicity

Aquatic toxicity:

64-17-5 Ethanol

LC50 / 48h 8140 mg/l (Leuciscus idus)
EC50 / 48h >10000 mg/l (Daphnia magna)
EC50 / 72h 275 mg/l (chlorella vulgaris) (OECD 201)

78-93-2 2-Butanone

LC50 / 96h >3000 mg/l (fish)
EC50 / 48h 1382 mg/l (Daphnia)

67-63-0 2-Propanol

LC50 / 48h > 100 mg/l (Leuciscus idus)
EC50 / 48h > 100 mg/l (Daphnia magna)
EC50 / 72h >100 mg/l (Scenedesmus subspicatus)

10043-35-3 Boric acid

according to 1272/2008/EG not to be classified as hazardous to the aquatic environment.

Biodegradation Data are not available.

Bioakkumulationspotenzial Keine weiteren relevanten Informationen verfügbar

Mobilität im Boden Keine weiteren relevanten Informationen verfügbar

Ecotoxic effect:

64-17-5 Ethanol

EC50 (static) >100 mg/l (Chlorella pyrenoidosa) (OECD 201)

Further ecological information:

General information:

Must not get into ground water, water bodies or sewage system.

Water hazard class 1 (list classification): slightly hazardous to water

PBT- and vPvB-evaluation

PBT: not relevant

vPvB: not relevant

Other adverse effects: No further relevant information available.

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

13. Disposal considerations

Waste treatment methods:



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packageings

It is a dangerous waste; only packageings which are approved (e.g. acc. to ADR) may be used.

Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Waste catalogue ordinance (Germany).

Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

14. Transport information

UN-number

ADR, IMDG, IATA: UN1170

UN proper shipping name

ADR: 1170 ETHANOL (ETHYLALKOHOL)

IMDG: ETHANOL (ETHYLALKOHOL)

IATA: ETHANOL

Transport hazard class(es)

ADR

class: 3 (F1) flammable liquids

Danger label(s): 3



IMDG, IATA

class: 3 flammable liquids

Danger label(s): 3

Packing group

ADR, IMDG, IATA: II

Environmental hazards

Marine pollutant: no

Special precautions for user: no

Hazard identification No: 33

EmS: F-E,S-D

Additional information

ADR

Limited quantities (LQ) 1L

Excepted quantities (EQ) Code: E2

Transport category (TC) 2

Tunnel restriction code (TRC) D/E

UN „Model Regulation“: UN 1170 ETHANOL (ETHYLALKOHOL), 3, II

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Relevant provisions of the European Union (EU)
Restrictions according to REACH, Annex XVII.

Pictograms



GHS02

GHS07

Signal word: Danger

Hazard statements

H225 Flüssigkeit und Dampf leicht entzündbar.
H319 Verursacht schwere Augenreizung.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Do not allow contact with water.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. .
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.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container to local/regional/national/international regulations

Seveso Directive 2012/18/EU (Seveso III)

P5C flammable liquids (cat. 2, 3)

Qualifying quantity (tonnes) for the application of lower-tier requirements: 5.000t

Qualifying quantity (tonnes) for the application of lower-upper requirements: 50.000t

Other information:

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions der the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Deco-Paint Directive:

VOC content: 100%
790g/l

Industrial Emissions Directive (IED):

VOC content: 100%
790g/l

Material Safety data Sheet Flux-E

according to Regulation (EC) No. 1907/2006 (REACH)

16. Other information

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product..

List of relevant phrases

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Abbreviations and acronyms:

RID:	Regulations Concerning the International Transport of Dangerous Goods by Rail
ICAO:	International Civil Aviation Organisation
LEV:	Local Exhaust Ventilation
NOAEL:	No Observed Adverse Effect level
RPE:	Respiratory Protective Equipment
RCR:	Risk Characterisation Ratio (RCR=PEC/PNEC)
ADR:	European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG:	International Maritime Code für Dangerous Goods
IATA:	International Air Transport Association
GHS:	Globally Harmonized System of Classification and Labelling of Chemicals
CLP:	Classification, Labelling and Packaging (Regulation (EC) No. 1272/2008)
EINECS:	European Inventory of Existing Commercial Chemical Substances
ELINCS:	European List of Notified Chemical Substances
CAS:	Chemical Abstracts Service (division of the American Chemical Society)
ISO:	International Organisation for Standardisation
DNEL:	Derived No-Effect Level (REACH)
PNEC:	Predicted No-Effect Concentration (REACH)
LC50:	Lethal concentration, 50 percent
LD50:	Lethal dose, 50 percent
vPvB:	very Persistent and very Bioaccumulative