



Safety data sheet according to 1907/2006/EC, Article 31

Printing date 07.03.2023

Version number 6.0 (replaces version 5.9)

Revision: 07.03.2023

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

· 1.1 Product identifier

· Trade name: **Flux-Gel HX21**

· 1.2 Relevant identified uses of the substance or mixture and uses advised against

· Technical function soldering

· Application of the substance / the mixture Soldering flux

· 1.3 Details of the supplier of the safety data sheet

· Manufacturer/Supplier:

Stannol GmbH & Co. KG
Haberstrasse 24
D-42551 Velbert

+49 (0) 2051 3120 332
sdb@stannol.de

· Further information obtainable from: Product Safety Department

· 1.4 Emergency telephone number:

8:00 am - 5:00 pm (CET) +49 (0) 2051 3120 332

National Poisons Information Service
+44 121 507 4123

Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture

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

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

· Hazard pictograms



GHS05

· Signal word Danger

· Hazard-determining components of labelling:

morpholine

· Hazard statements

H314 Causes severe skin burns and eye damage.

· Precautionary statements

P260 Do not breathe mist/vapours/spray.

P280 Wear protective gloves / eye protection / face protection.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.

P310 Immediately call a doctor.

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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2.3 Other hazards

Flux / flux gels:

Inhalation of vapors released during the soldering process should be avoided. Flux vapors irritate the nose, throat, and respiratory tract, and can lead to allergic reactions (asthma) after prolonged or repeated contact. Therefore, an active suction is recommended.

After working with the product and before eating, drinking or smoking, wash your hands with soap and water.

Keep out of the reach of children.

Results of PBT and vPvB assessment**PBT:** Not applicable.**vPvB:** Not applicable.**SECTION 3: Composition/information on ingredients****3.2 Mixtures****Description:** Mixture of substances listed below with nonhazardous additions.**Dangerous components:**

CAS: 6915-15-7	I-Malic acid	2.5 - 15%
EINECS: 230-022-8	Eye Irrit. 2, H319	
CAS: 110-91-8	morpholine	2.5 - 15%
EINECS: 203-815-1	Flam. Liq. 3, H226 Acute Tox. 3, H311 Skin Corr. 1B, H314; Eye Dam. 1, H318 Acute Tox. 4, H302; Acute Tox. 4, H332	
CAS: 1341-49-7	ammonium bifluoride	≤ 1%
EINECS: 215-676-4	Acute Tox. 3, H301 Skin Corr. 1B, H314 Specific concentration limits: Skin Corr. 1B; H314: $C \geq 1\%$ Skin Irrit. 2; H315: $0.1\% \leq C < 1\%$ Eye Irrit. 2; H319: $0.1\% \leq C < 1\%$	

Additional information: For the wording of the listed hazard phrases refer to section 16.**SECTION 4: First aid measures****4.1 Description of first aid measures****General information:** Immediately remove any clothing soiled by the product.**After inhalation:** In case of unconsciousness place patient stably in side position for transportation.**After skin contact:** Immediately wash with water and soap and rinse thoroughly.**After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.**After swallowing:** Drink plenty of water and provide fresh air. Call for a doctor immediately.**4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.**4.3 Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.**5.2 Special hazards arising from the substance or mixture**

During heating or in case of fire poisonous gases are produced.

5.3 Advice for firefighters**Protective equipment:** Mouth respiratory protective device.

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SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation
Wear protective clothing.

· 6.2 Environmental precautions:

Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralising agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.

· 6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

· 7.1 Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.

· **Information about fire - and explosion protection:** Keep respiratory protective device available.

· 7.2 Conditions for safe storage, including any incompatibilities

· Storage:

· **Requirements to be met by storerooms and receptacles:** No special requirements.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep container tightly sealed.

· **Storage class:** 8 B

· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

· **Ingredients with limit values that require monitoring at the workplace:**

CAS: 110-91-8 morpholine

WEL (Great Britain) Short-term value: 72 mg/m³, 20 ppm
Long-term value: 36 mg/m³, 10 ppm
Sk

IOELV (EU) Short-term value: 72 mg/m³, 20 ppm
Long-term value: 36 mg/m³, 10 ppm

· **Additional information:** The lists valid during the making were used as basis.

· 8.2 Exposure controls

· **Appropriate engineering controls** No further data; see item 7.

· **Individual protection measures, such as personal protective equipment**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

· **Respiratory protection:**

Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.



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Filter A

· **Hand protection**



Protective gloves

Rubber gloves

Synthetic rubber gloves

To avoid skin problems reduce the wearing of gloves to the required minimum.

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

Nitrile rubber, NBR

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The determined penetration times according to EN 16523-1:2015 are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection** Safety glasses

SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**

· **General Information**

· **Physical state**

Fluid

· **Colour:**

Yellow

· **Odour:**

Characteristic

· **Odour threshold:**

Not determined.

· **Melting point/freezing point:**

Undetermined.

· **Boiling point or initial boiling point and boiling range** 47 °C

· **Flammability**

Not applicable.

· **Lower and upper explosion limit**

· **Lower:**

Not determined.

· **Upper:**

Not determined.

· **Flash point:**

Not applicable.

· **Decomposition temperature:**

Not determined.

· **pH**

Not determined.

· **Viscosity:**

· **Kinematic viscosity**

Not determined.

· **Dynamic:**

Not determined.

· **Solubility**

· **water:**

Fully miscible.

· **Partition coefficient n-octanol/water (log value)**

Not determined.

· **Vapour pressure:**

Not determined.

· **Density and/or relative density**

· **Density at 20 °C:**

1.15 g/cm³

· **Relative density**

Not determined.

· **Vapour density**

Not determined.

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· 9.2 Other information

· Appearance:

· Form: Pasty

· Important information on protection of health and environment, and on safety.

· Ignition temperature:

Product is not selfigniting.

· Explosive properties:

Product does not present an explosion hazard.

· Solvent content:

· Organic solvents:

10.4 %

· VOC (EC)

10.40 %

· Change in condition

· Evaporation rate

Not determined.

· Information with regard to physical hazard classes

· Explosives

Void

· Flammable gases

Void

· Aerosols

Void

· Oxidising gases

Void

· Gases under pressure

Void

· Flammable liquids

Void

· Flammable solids

Void

· Self-reactive substances and mixtures

Void

· Pyrophoric liquids

Void

· Pyrophoric solids

Void

· Self-heating substances and mixtures

Void

· Substances and mixtures, which emit flammable gases in contact with water

Void

· Oxidising liquids

Void

· Oxidising solids

Void

· Organic peroxides

Void

· Corrosive to metals

Void

· Desensitised explosives

Void

SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

· 10.2 Chemical stability

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **10.3 Possibility of hazardous reactions** No dangerous reactions known.

· **10.4 Conditions to avoid** No further relevant information available.

· **10.5 Incompatible materials:** No further relevant information available.

· **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

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

· **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

CAS: 110-91-8 morpholine

Oral LD50 1,050 mg/kg (rat)

Dermal LD50 500 mg/kg (rabbit)

· **Skin corrosion/irritation** Causes severe skin burns and eye damage.

· **Serious eye damage/irritation** Causes serious eye damage.

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- **11.2 Information on other hazards**
- **Endocrine disrupting properties**
None of the ingredients is listed.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Endocrine disrupting properties** The product does not contain substances with endocrine disrupting properties.
- **12.7 Other adverse effects**
- **Additional ecological information:**
- **General notes:**
Water hazard class 3 (German Regulation) (Self-assessment): extremely hazardous for water
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Must not reach sewage water or drainage ditch undiluted or unneutralised.
Danger to drinking water if even extremely small quantities leak into the ground.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**
- **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packaging:**
- **Recommendation:** Packagings that may not be cleansed are to be disposed of in the same manner as the product.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN number or ID number**
- **ADR, IMDG, IATA** UN1760
- **14.2 UN proper shipping name**
- **ADR** 1760 CORROSIVE LIQUID, N.O.S. (MORPHOLINE)
- **IMDG, IATA** CORROSIVE LIQUID, N.O.S. (MORPHOLINE)
- **14.3 Transport hazard class(es)**
- **ADR, IMDG, IATA**



- **Class** 8 Corrosive substances.
- **Label** 8
- **14.4 Packing group**
- **ADR, IMDG, IATA** II
- **14.5 Environmental hazards:** Not applicable.

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- **14.6 Special precautions for user** Warning: Corrosive substances.
- **Hazard identification number (Kemler code):** 80
- **EMS Number:** F-A,S-B
- **Stowage Category** B
- **Stowage Code** SW2 Clear of living quarters.
- **14.7 Maritime transport in bulk according to IMO instruments** Not applicable.
- **Transport/Additional information:**
- **ADR**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
- **Transport category** 2
- **Tunnel restriction code** E
- **IMDG**
- **Limited quantities (LQ)** 1L
- **Excepted quantities (EQ)** Code: E2
Maximum net quantity per inner packaging: 30 ml
Maximum net quantity per outer packaging: 500 ml
- **UN "Model Regulation":** UN 1760 CORROSIVE LIQUID, N.O.S. (MORPHOLINE), 8, II

SECTION 15: Regulatory information

- **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Labelling according to Regulation (EC) No 1272/2008**
The product is classified and labelled according to the GB CLP regulation.
- **Hazard pictograms**



GHS05

- **Signal word** Danger
- **Hazard-determining components of labelling:**
morpholine
- **Hazard statements**
H314 Causes severe skin burns and eye damage.
- **Precautionary statements**
P260 Do not breathe mist/vapours/spray.
P280 Wear protective gloves / eye protection / face protection.
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or 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.
P310 Immediately call a doctor.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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- **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Relevant phrases**

H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.

- **Department issuing SDS:** Product Safety Department

- **Contact:** Hr. Dörr

- **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
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)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

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