SAFETY DATA SHEET

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

Revision date: 29 Mar 2023
Print date: 29 Mar 2023
Version: 2.0

WF-9942 WAVE FLUX

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

1.1. Product identifier

Trade name/designation:

WF-9942 WAVE FLUX

Other means of identification:

SDS-4159

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

Use of the substance/mixture:

Welding, soldering, and flux products

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/ distributor):

Indium Corporation of America
Americas
34 Robinson Road
13323 Clinton, NY
United States
Telephone: (315) 853-4900
Telefax: (315) 853-1000
E-mail: EHS_Compliance@indium.com
Website: https://www.indium.com

Importer/Only Representative:

Indium Advanced Materials GmbH
Fragnerstrasse 4
84034 Landshut
Germany
Telephone: +49 871 4309500
E-mail: EHS_Compliance@indium.com
Website: http://www.indium.com

E-mail (competent person): EHS_Compliance@indium.com
CHEMTREC 24 hrs

1.4. Emergency telephone number

Portugal, 24h: 351-308801773
Hungary, 24h: 36-18088425
Romania, 24h: 40-37-6300026
Germany, 24h: 0800-181-7059 or (Frankfurt) 49-69643508409
Poland, 24h: 48-223988029
United Kingdom, 24h: 44-870-8200418 and 44-2038073798
Italy, 24h: 800-789-767
Outside USA:, 24h: +1 (703) 527-3887
France, 24h: 33-975181407
USA, 24h: 1 (800) 424-9300
China, 24h: +86 4001-204937

WF-9942 WAVE FLUX

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids *(Flam. Liq. 2)*	H225: Highly flammable liquid and vapour.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
STOT-single exposure *(STOT SE 3)*	H336: May cause drowsiness or dizziness.	

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms:

GHS02
Flame

GHS07
Exclamation mark

Signal word: Danger

Hazard statements for physical hazards	
H225	Highly flammable liquid and vapour.

Hazard statements for health hazards	
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Supplemental hazard information	
EUH208	Contains Rosin, oligomers. May produce an allergic reaction.

Precautionary statements Prevention	
P261	Avoid breathing vapours and spray.
P280	Wear protective gloves/protective clothing and eye/face protection.

Precautionary statements Response	
P301 + P312	IF SWALLOWED: Call a doctor if you feel unwell.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Special rules for supplemental label elements for certain mixtures:
3.2 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
3.2 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
88.1 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalative).

2.3. Other hazards

No data available

WF-9942 WAVE FLUX

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 67-63-0 EC No.: 200-661-7 Index No.: 603-117-00-0	**Isopropanol** Eye Irrit. 2 (H319), Flam. Liq. 2 (H225), STOT SE 3 (H336) Danger	80 – ≤ 90 weight-%
CAS No.: 68937-72-4 EC No.: 273-084-1	**Carboxylic acids, di-, C4-11** Eye Dam. 1 (H318) Danger	1 – ≤ 20 weight-%

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information:
In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:
Provide fresh air. In case of respiratory tract irritation, consult a physician. Get medical advice/attention if you feel unwell.

In case of skin contact:
After contact with skin, wash immediately with plenty of water and soap. If skin irritation or rash occurs: Get medical advice/attention. Take off immediately all contaminated clothing.

After eye contact:
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion:
Rinse mouth. Let 1 glass of water be drunken in little sips (dilution effect). Get medical advice/attention if you feel unwell.

Self-protection of the first aider:
Use personal protection equipment.

4.2. Most important symptoms and effects, both acute and delayed
Serious eye damage/eye irritation Dizziness Dizziness

4.3. Indication of any immediate medical attention and special treatment needed
Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:
Water spray jet alcohol resistant foam Extinguishing powder Carbon dioxide (CO2)

5.2. Special hazards arising from the substance or mixture
Combustible

Hazardous combustion products:
In case of fire: Gases/vapours, toxic

5.3. Advice for firefighters
Wear a self-contained breathing apparatus and chemical protective clothing.

5.4. Additional information
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Personal precautions:
Remove persons to safety.

Protective equipment:
Wear protective gloves/protective clothing/eye protection/face protection.

6.1.2. For emergency responders

Personal protection equipment:
Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

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

6.4. Reference to other sections

Safe handling: see section 7 Personal protection equipment: see section 8 Disposal: see section 13

6.5. Additional information

Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
Wear personal protection equipment (refer to section 8).

Fire prevent measures:
Keep away from sources of ignition - No smoking.

Advices on general occupational hygiene

When using do not eat, drink, smoke, sniff. Avoid contact with skin, eyes and clothes.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:
Keep container tightly closed in a cool, well-ventilated place.

Storage class (TRGS 510, Germany): 3 – Flammable liquids

7.3. Specific end use(s)

No data available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	Substance name	① Long-term occupational exposure limit value ② Short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
IDLH (US) from 1 Jan 1994	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	① 2,000 ppm [10% LEL]
OSHA (US)	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	① 400 ppm (980 mg/m³)
NIOSH (US)	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	① 400 ppm (980 mg/m³) ② 500 ppm (1,225 mg/m³)
ACGIH (US) from 1 Mar 2014	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	① 200 ppm (492 mg/m³) ② 400 ppm (984 mg/m³)
TRGS 900 (DE)	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	① 200 ppm (500 mg/m³) ② 400 ppm (1,000 mg/m³) ⑤ DFG, Y

8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① Parameter ② Test material ③ Time of sampling: ④ Remark
TRGS 903 (DE) from 1 Nov 2012	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	25 mg/L	① Aceton ② Blut ③ Expositionsende bzw. Schichtende
TRGS 903 (DE) from 1 Nov 2012	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	25 mg/L	① Aceton ② Urin ③ Expositionsende bzw. Schichtende
ACGIH-BEI (US)	**Isopropanol** CAS No.: 67-63-0 EC No.: 200-661-7	40 mg/L	① Acetone in urine ② urine ③ end of shift at end of workweek

8.1.3. DNEL-/PNEC-values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No data available

8.2.2. Personal protection equipment

Eye/face protection:

Eye glasses with side protection EN 166

Skin protection:

Tested protective gloves must be worn EN ISO 374 Suitable material: Breakthrough time: min In the case of wanting to use the gloves again, clean them before taking off and air them well. Breakthrough times and swelling properties of the material must be taken into consideration.

8.2.3. Environmental exposure controls
No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: not determined
Odour: Alcohol

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	4		
Melting point	*not determined*		
Freezing point	*not determined*		
Initial boiling point and boiling range	80 °C		
Decomposition temperature	*not determined*		
Flash point	12 °C		
Evaporation rate	1.7 g/s		
Auto-ignition temperature	399 °C		
Upper/lower flammability or explosive limits	*not determined*		
Vapour pressure	33 mm Hg	15.5 °C	
Vapour density	2.1		
Density	0.833	15.5 °C	
Relative density	*not determined*		
Bulk density	*not determined*		
Water solubility	easily soluble		
Partition coefficient: n-octanol/water	*not determined*		
Dynamic viscosity	*not determined*		
Kinematic viscosity	*not determined*		

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
Highly flammable liquid and vapour.

10.2. Chemical stability
The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions
In use, may form flammable/explosive vapour-air mixture.

10.4. Conditions to avoid
Only use the material in places where open light, fire and other flammable sources can be kept away.

10.5. Incompatible materials
Aluminium; Hydrocarbons, halogenated

10.6. Hazardous decomposition products
Gases/vapours, toxic

SECTION 11: Toxicological information

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

Isopropanol CAS No.: 67-63-0 EC No.: 200-661-7
LD_{50} oral: =5,050 mg/kg (Rat)
LD_{50} dermal: =1,280 mg/kg (Rabbit)

Acute oral toxicity:
Based on available data, the classification criteria are not met.

Acute dermal toxicity:
Based on available data, the classification criteria are not met.

Acute inhalation toxicity:
Based on available data, the classification criteria are not met.

Skin corrosion/irritation:
Based on available data, the classification criteria are not met.

Serious eye damage/irritation:
Causes serious eye irritation.

Respiratory or skin sensitisation:
Contains 2,3-dibromo-2-butene-1,4-diol. May produce an allergic reaction.

Germ cell mutagenicity:
Based on available data, the classification criteria are not met.

Carcinogenicity:
Based on available data, the classification criteria are not met.

Reproductive toxicity:
Based on available data, the classification criteria are not met.

STOT-single exposure:
May cause drowsiness or dizziness.

STOT-repeated exposure:
Based on available data, the classification criteria are not met.

Aspiration hazard:
Based on available data, the classification criteria are not met.

Additional information:
No data available

11.2. Information on other hazards
No data available

SECTION 12: Ecological information

12.1. Toxicity

Isopropanol CAS No.: 67-63-0 EC No.: 200-661-7
LC_{50}: 9,640 mg/L 4 d (fish, Pimephales promelas)
EC_{50}: >10,000 mg/L 1 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential

Isopropanol CAS No.: 67-63-0 EC No.: 200-661-7
Log K_{OW}: 0.196

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment

Isopropanol CAS No.: 67-63-0 EC No.: 200-661-7
Results of PBT and vPvB assessment: —

Carboxylic acids, di-, C4-11 CAS No.: 68937-72-4 EC No.: 273-084-1
Results of PBT and vPvB assessment: —

12.6. Endocrine disrupting properties
No data available

12.7. Other adverse effects
No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment options

Appropriate disposal / Product:
Consult the appropriate local waste disposal expert about waste disposal.

SECTION 14: Transport information

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
UN 1219	UN 1219	UN 1219	UN 1219
14.2. UN proper shipping name			
ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL (ISOPROPYL ALCOHOL)	ISOPROPANOL (ISOPROPYL ALCOHOL)
14.3. Transport hazard class(es)			
 3	 3	 3	 3
14.4. Packing group			
II	II	II	II
14.5. Environmental hazards			
No	No	No	No
14.6. Special precautions for user			
Special Provisions: 601 **Limited quantity (LQ):** 1 L **Excepted Quantities (EQ):** E2 **Hazard identification number (Kemler No.):** 33 **Classification code:** F1 **Tunnel restriction code:** (D/E)	**Special Provisions:** 601 **Limited quantity (LQ):** 1 L **Excepted Quantities (EQ):** E2 **Classification code:** F1	**Special Provisions:** - **Limited quantity (LQ):** 1 L **Excepted Quantities (EQ):** E2 **EmS-No.:** F-E, S-D	**Special Provisions:** A180 **Limited quantity (LQ):** Y341 **Excepted Quantities (EQ):** E2

14.7. Maritime transport in bulk according to IMO instruments
No data available

WF-9942 WAVE FLUX

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU legislation

Authorisations:

Contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none

15.1.2. National regulations

[DE] National regulations

Water hazard class

WGK:

3 - Severely water-hazardous

[US] National regulations

California Proposition 65 list of chemicals

WARNING: This product can expose you to chemicals including [trace amounts of 1,4 dioxane] which are known to the State of California to cause cancer and to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

15.2. Chemical Safety Assessment

No data available

15.3. Additional information

Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable

SECTION 16: Other information

16.1. Indication of changes

No data available

16.2. Abbreviations and acronyms

No data available

16.3. Key literature references and sources for data

Substance name	Type	source of supply
Isopropanol CAS No.: 67-63-0 EC No.: 200-661-7	LC_{50}; EC_{50}	Source: European Chemicals Agency, http://echa.europa.eu/

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

Hazard classes and hazard categories	Hazard statements	Classification procedure
flammable liquids *(Flam. Liq. 2)*	H225: Highly flammable liquid and vapour.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
STOT-single exposure *(STOT SE 3)*	H336: May cause drowsiness or dizziness.	

16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H225	Highly flammable liquid and vapour.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

16.6. Training advice

No data available

16.7. Additional information
No data available