SAFETY DATA SHEET

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

Revision date: 18 Oct 2022
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Version: 2.0

TACFLUX 018

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

1.1. Product identifier

Trade name/designation:

TACFLUX 018

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

No data available

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

Supplier:

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
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
Poland, 24h: 48-223988029
China, 24h: +86 4001-204937

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
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	
Acute toxicity (dermal) *(Acute Tox. 4)*	H312: Harmful in contact with skin.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	

Hazard classes and hazard categories	Hazard statements	Classification procedure
Serious eye damage/eye irritation *(Eye Dam. 1)*	H318: Causes serious eye damage.	
Reproductive toxicity *(Repr. 1B)*	H360FD: May damage fertility. May damage the unborn child.	

2.2. Label elements

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

Hazard pictograms:

GHS05
Corrosion

GHS07
Exclamation mark

GHS08
Health hazard

Signal word: Danger

Hazard statements for health hazards	
H302 + H312	Harmful if swallowed or in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H360FD	May damage fertility. May damage the unborn child.

Supplemental hazard information: none

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

Precautionary statements Response	
P301 + P312	IF SWALLOWED: Call a doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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:
51.2 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
84.5 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalative).

2.3. Other hazards

No data available

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.: 65997-05-9 **EC No.:** 500-163-2	**Rosin, oligomers** The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].	22 – < 40 weight-%
CAS No.: 9038-95-3	**Polyglycol Ether** The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].	30 – ≤ 40 weight-%
CAS No.: 68937-72-4 **EC No.:** 273-084-1	**Carboxylic acids, di-, C4-11** Eye Dam. 1 (H318) **Danger**	20 – ≤ 30 weight-%

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 143-24-8 **EC No.:** 205-594-7 **Index No.:** 603-238-00-9	**bis(2-(2-methoxyethoxy)ethyl) ether** *Candidate List of Substances of Very High Concern for Authorisation!* Repr. 1B (H360FD) **Danger**	4 – < 8 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. Warning First aider: Pay attention to self-protection!

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. Take off immediately all contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention. Get medical advice/attention.

After eye contact:
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

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. No direct artificial respiration to be given by first aider. Avoid contact with skin, eyes and clothes.

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

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:
Co-ordinate fire-fighting measures to the fire surroundings.

5.2. Special hazards arising from the substance or mixture
The product itself does not burn.

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:
Keep container tightly closed. Clear spills immediately. Wash hands thoroughly after handling. Provide adequate ventilation as well as local exhaustion at critical locations. Wear personal protection equipment (refer to section 8). Avoid contact during pregnancy/while nursing.

Fire prevent measures:
No special measures are necessary.

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. The product is chemically stable under recommended conditions of storage, use and temperature.Observe the expiry date.

Storage class (TRGS 510, Germany): 13 – Non-combustible solids that cannot be assigned to any of the above storage classes

7.3. Specific end use(s)

Recommendation:
Soldering applications

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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.

Respiratory protection:
An approved or EU compliant CE marked air-purifying respirator with a fume/organic chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated.

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: solid
Colour: light yellow
Odour: odourless

Safety relevant basis data

Parameter	Value	① Method ② Remark
pH	*No data available*	
Melting point	*No data available*	
Freezing point	*not determined*	
Initial boiling point and boiling range	*No data available*	
Decomposition temperature	*No data available*	
Flash point	*not applicable*	
Evaporation rate	*No data available*	
Auto-ignition temperature	*not applicable*	
Upper/lower flammability or explosive limits	*not applicable*	
Vapour pressure	*not determined*	
Vapour density	*not determined*	
Density	*not determined*	
Relative density	*not determined*	
Bulk density	*not determined*	
Water solubility	practically insoluble	
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

The product is stable under storage at normal ambient temperatures. The product itself does not burn.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Stable under recommended storage and handling conditions.

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

10.5. Incompatible materials
Oxidising agent, strong

10.6. Hazardous decomposition products
The product is stable under storage at normal ambient temperatures. In case of fire: Gases/vapours, toxic

SECTION 11: Toxicological information

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

Rosin, oligomers **CAS No.:** 65997-05-9 **EC No.:** 500-163-2	
LD_{50} oral: >1,000 mg/kg (Rat) OECD Guideline 401 (Acute Oral Toxicity)	
LD_{50} dermal: >2,000 mg/kg (Rat)	
bis(2-(2-methoxyethoxy)ethyl) ether **CAS No.:** 143-24-8 **EC No.:** 205-594-7	
LD_{50} oral: 3,850 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)	

Acute oral toxicity:
Harmful if swallowed.

Acute dermal toxicity:
Harmful in contact with skin.

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 damage.

Respiratory or skin sensitisation:
May cause an allergic skin 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. May damage fertility. May damage the unborn child.

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

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

Rosin, oligomers **CAS No.:** 65997-05-9 **EC No.:** 500-163-2
LC_{50}: 1.7 mg/L 4 d (fish, Pimephales promelas (fathead minnow)) OECD Guideline 203 (Fish, Acute Toxicity Test)
LC_{50}: 1.6 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD Guideline 202 (Daphnia Acute Immobilisation Test)
EC_{50}: 16.6 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD Guideline 201 (Alga, Growth Inhibition Test)
NOEC: 6.25 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD Guideline 201 (Alga, Growth Inhibition Test)
NOEC: 0.625 mg/L 4 d (fish, Pimephales promelas (fathead minnow)) OECD Guideline 203 (Fish, Acute Toxicity Test)
NOEC: 0.625 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD Guideline 202 (Daphnia Acute Immobilisation Test)
bis(2-(2-methoxyethoxy)ethyl) ether **CAS No.:** 143-24-8 **EC No.:** 205-594-7
LC_{50}: >5,000 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio))
EC_{50}: 2,814 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))
EC_{50}: 7,467 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: <625 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum))
NOEC: ≥5,000 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio))
NOEC: 2,500 mg/L 2 d (crustaceans, Daphnia magna)
NOEC: 320 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)
LOEC: 5,000 mg/L 2 d (crustaceans, Daphnia magna)

12.2. Persistence and degradability
No data available

12.3. Bioaccumulative potential

Rosin, oligomers **CAS No.:** 65997-05-9 **EC No.:** 500-163-2
Log K_{OW}: > 6.5
Bioconcentration factor (BCF): 7,748
bis(2-(2-methoxyethoxy)ethyl) ether **CAS No.:** 143-24-8 **EC No.:** 205-594-7
Log K_{OW}: 0.84

12.4. Mobility in soil
No data available

12.5. Results of PBT and vPvB assessment

Rosin, oligomers **CAS No.:** 65997-05-9 **EC No.:** 500-163-2
Results of PBT and vPvB assessment: —
bis(2-(2-methoxyethoxy)ethyl) ether **CAS No.:** 143-24-8 **EC No.:** 205-594-7
Results of PBT and vPvB assessment: —
Polyglycol Ether **CAS No.:** 9038-95-3
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

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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			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.
14.3. Transport hazard class(es)			
not relevant	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7. Maritime transport in bulk according to IMO instruments

No data available

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: bis(2-(2-methoxyethoxy)ethyl) ether

15.1.2. National regulations

[DE] National regulations

Water hazard class

WGK:

1 - Mildly water-hazardous

[US] National regulations

California Proposition 65 list of chemicals

Does not contain any chemicals listed under California Proposition 65 chemical list

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: No chemicals contained.

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
bis(2-(2-methoxyethoxy)ethyl) ether **CAS No.:** 143-24-8 **EC No.:** 205-594-7	LD_{50} oral; LC_{50}; EC_{50}; NOEC; LOEC	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
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	
Acute toxicity (dermal) *(Acute Tox. 4)*	H312: Harmful in contact with skin.	
Respiratory or skin sensitisation *(Skin Sens. 1)*	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation *(Eye Dam. 1)*	H318: Causes serious eye damage.	
Reproductive toxicity *(Repr. 1B)*	H360FD: May damage fertility. May damage the unborn child.	

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

Hazard statements	
H318	Causes serious eye damage.
H360FD	May damage fertility. May damage the unborn child.

16.6. Training advice
No data available

16.7. Additional information
No data available