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## **TACFLUX 020B**

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

## 1.1. Product identifier

Trade name/designation:

## TACFLUX 020B

## 1.2. Relevant identified uses of the substance or mixture and uses advised against No data available

Supplier:

Cheongju,

Korea

Indium Corporation (Korea) Co., Ltd.

28576 Chungcheongbuk-do

Telephone: +82 (0)70 7780 5200

24 Jikji-daero 436 beon-gil, Heungdeok-gu,

## 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

**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
flammable liquids (Flam. Liq. 3)	H226: Flammable liquid and vapour.	
Acute toxicity (oral) (Acute Tox. 4)	H302: Harmful if swallowed.	
Respiratory or skin sensitisation (Skin Sens. 1)	H317: May cause an allergic skin reaction.	

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## **TACFLUX 020B**

Hazard classes and hazard categories	Hazard statements	Classification procedure
Serious eye damage/eye irritation (Eye Irrit. 2)	H319: Causes serious eye irritation.	
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	
Respiratory or skin sensitisation (Resp. Sens. 1B)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
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:



GHS02 Flame



**GHS07** Exclamation mark



GHS08 Health hazard

Signal word: Danger

Hazard statements	for physical hazards
H226	Flammable liquid and vapour.

Hazard statements for health hazards		
H302 + H332	Harmful if swallowed or if inhaled.	
H317	May cause an allergic skin reaction.	
H319	Causes serious eye irritation.	
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
H360FD	May damage fertility. May damage the unborn child.	

## Supplemental hazard information: none

Precautionary statements Prevention		
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.	

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.	
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	
	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present	
	and easy to do. Continue rinsing.	

## Special rules for supplemental label elements for certain mixtures:

- 2.0 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (oral).
- 7.5 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (dermal).
- 55.0 % percent of the mixture consists of ingredient(s) of unknown acute toxicity (inhalative).

## 2.3. Other hazards

No data available

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## **TACFLUX 020B**

## **SECTION 3: Composition/information on ingredients**

#### 3.2. Mixtures

#### Hazardous ingredients / Hazardous impurities / Stabilisers:

<u> </u>	,	×
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].	45 - < 55 weight-%
CAS No.: 109-86-4 EC No.: 203-713-7 Index No.: 603-011-00-4	2-methoxyethanol Candidate List of Substances of Very High Concern for Authorisation! Acute Tox. 4 (H332, H312, H302), Flam. Liq. 3 (H226), Repr. 1B (H360FD)  Output  Danger	30 - ≤ 45 weight-%
CAS No.: 61788-85-0 EC No.: 500-147-5	Castor oil, hydrogenated, ethoxylated The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].	3 - ≤ 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. Get medical advice/attention. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator. Get immediate medical advice/attention.

### 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.

#### 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. No direct artificial respiration to be given by first aider.

## 4.2. Most important symptoms and effects, both acute and delayed

Serious eye damage/eye irritation Allergic reactions Asthmatic complaints Respiratory complaints

## **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

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## 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:

Collect spillage. Measures to prevent aerosol and dust generation Wet clean or vacuum up solids.

#### For cleaning up:

Water (with cleaning agent)

#### 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.

#### Measures to prevent aerosol and dust generation:

Dust should be exhausted directly at the point of origin.

## 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:

Store product in tightly capped original containers in a cool, dry area. Refer to product label and product data sheet for specific storage temperature requirements. Rotate stock to ensure use before expiration date.

Keep container tightly closed in a cool, well-ventilated place.

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

## 7.3. Specific end use(s)

#### **Recommendation:**

Soldering applications

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## **TACFLUX 020B**

## **SECTION 8: Exposure controls/personal protection**

## 8.1. Control parameters

#### 8.1.1. Occupational exposure limit values

J.I.I. Occupati	onai exposure minic values	5.1.1. Occupational exposure minit values			
Limit value type (country of origin)	Substance name	<ol> <li>Long-term occupational exposure limit value</li> <li>Short-term occupational exposure limit value</li> <li>Instantaneous value</li> <li>Monitoring and observation processes</li> <li>Remark</li> </ol>			
TRGS 900 (DE)	2-methoxyethanol CAS No.: 109-86-4 EC No.: 203-713-7	① 1 ppm (3.2 mg/m³) ② 8 ppm (25.6 mg/m³) ⑤ (kann über die Haut aufgenommen werden) DFG, EU, H, Z			
IOELV (EU)	2-methoxyethanol CAS No.: 109-86-4 EC No.: 203-713-7	① 1 ppm ⑤ (may be absorbed through the skin)			

#### 8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	<ul><li>① Parameter</li><li>② Test material</li><li>③ Time of sampling:</li><li>④ Remark</li></ul>
TRGS 903 (DE)	2-methoxyethanol CAS No.: 109-86-4 EC No.: 203-713-7	15 mg/g Creatinin	<ol> <li>Methoxyessigsäure</li> <li>Urin</li> <li>Expositionsende bzw. Schichtende</li> </ol>
BLV (EU)	2-methoxyethanol CAS No.: 109-86-4 EC No.: 203-713-7	8 mg/g creatinine	Methoxyacetic acid     urine     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.

#### **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. Particle filter device (EN 143)

#### 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: not determined

Odour: not determined

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## **TACFLUX 020B**

## Safety relevant basis data

Parameter	Value	① Method
		② Remark
рН	No data available	
Melting point	not applicable	
Freezing point	No data available	
Initial boiling point and boiling range	No data available	
Decomposition temperature	No data available	
Flash point	45 °C	
Evaporation rate	No data available	
Auto-ignition temperature	not determined	
Upper/lower flammability or explosive limits	No data available	
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. Flammable liquid and vapour. 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<sub>50</sub> oral: >1,000 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)

**LD<sub>50</sub> dermal:** >2,000 mg/kg (rat)

**2-methoxyethanol** CAS No.: 109-86-4 EC No.: 203-713-7

**LD<sub>50</sub> oral:** 2,370 mg/kg (Rat) **LD<sub>50</sub> dermal:** 1,280 mg/kg (Rabbit)

Castor oil, hydrogenated, ethoxylated CAS No.: 61788-85-0 EC No.: 500-147-5

**LD<sub>50</sub> oral:** >2,000 mg/kg (rat)

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#### Acute oral toxicity:

Harmful if swallowed.

#### Acute dermal toxicity:

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

## Acute inhalation toxicity:

Harmful if inhaled.

#### **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:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. 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

LC50: 1.7 mg/L 4 d (fish, Pimephales promelas) OECD Guideline 203 (Fish, Acute Toxicity Test)

LC<sub>50</sub>: 1.6 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

**EC<sub>50</sub>:** 16.6 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)

**NOEC:** 6.25 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)

NOEC: 0.625 mg/L 4 d (fish, Pimephales promelas) OECD Guideline 203 (Fish, Acute Toxicity Test)

NOEC: 0.625 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

## **2-methoxyethanol** CAS No.: 109-86-4 EC No.: 203-713-7

LC<sub>50</sub>: >10,000 mg/L 4 d (fish, Lepomis macrochirus (Bluegill))

EC<sub>50</sub>: =27,000 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))

ErC<sub>50</sub>: =25,000 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata)

## Castor oil, hydrogenated, ethoxylated CAS No.: 61788-85-0 EC No.: 500-147-5

LC<sub>50</sub>: >1 mg/L 4 d (fish, Oncorhynchus mykiss (previous name: Salmo gairdneri))

**EC<sub>50</sub>:** >1 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)

EC<sub>50</sub>: >1 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

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## **TACFLUX 020B**

## 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<sub>OW</sub>: > 6.5

Bioconcentration factor (BCF): 7,748

Castor oil, hydrogenated, ethoxylated CAS No.: 61788-85-0 EC No.: 500-147-5

Log K<sub>OW</sub>: 18.5

## 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: —

2-methoxyethanol CAS No.: 109-86-4 EC No.: 203-713-7

Results of PBT and vPvB assessment: —

Castor oil, hydrogenated, ethoxylated CAS No.: 61788-85-0 EC No.: 500-147-5

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 1188	UN 1188	UN 1188	UN 1188
14.2. UN proper ship	oping name		
ETHYLENE GLYCOL MONOMETHYL ETHER	ETHYLENE GLYCOL MONOMETHYL ETHER	ETHYLENE GLYCOL MONOMETHYL ETHER	ETHYLENE GLYCOL MONOMETHYL ETHER
14.3. Transport haza	ard class(es)		
	· ·	*	
3	3	3	3
14.4. Packing group			
III	III	III	III
14.5. Environmental	hazards		-
No	No	No	No
14.6. Special precautions for user			
Limited quantity (LQ): 5 L	Limited quantity (LQ): 5 L	Special Provisions: - Limited quantity (LQ): 5 L	Limited quantity (LQ): Y344

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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
Excepted Quantities (EQ):	Excepted Quantities (EQ): E1	Excepted Quantities (EQ): E1	Excepted Quantities (EQ): E1
Hazard identification number (Kemler No.): 30	Classification code: F1	<b>EmS-No.:</b> F-E, S-D	
Classification code: F1			
Tunnel restriction code: (D/E)			

## 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: 2-methoxyethanol

## 15.1.2. National regulations

## [DE] National regulations

#### Water hazard class

### WGK:

2 - Significantly water-hazardous

## 15.2. Chemical Safety Assessment

No data available

## **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	Туре	source of supply
Rosin, oligomers CAS No.: 65997-05-9 EC No.: 500-163-2	LD <sub>50</sub> oral; LD <sub>50</sub> dermal; LC <sub>50</sub> ; EC <sub>50</sub> ; NOEC	Source: European Chemicals Agency, http://echa.europa.eu/
Castor oil, hydrogenated, ethoxylated CAS No.: 61788-85-0 EC No.: 500-147-5	LD <sub>50</sub> oral; LC <sub>50</sub> ; EC <sub>50</sub>	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. 3)	H226: Flammable liquid and vapour.	
Acute toxicity (oral) (Acute Tox. 4)	H302: Harmful if swallowed.	
Respiratory or skin sensitisation (Skin Sens. 1)	H317: May cause an allergic skin reaction.	
Serious eye damage/eye irritation (Eye Irrit. 2)	H319: Causes serious eye irritation.	

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## **TACFLUX 020B**

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	
Respiratory or skin sensitisation (Resp. Sens. 1B)	H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.	
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	
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.

## 16.6. Training advice

No data available

## 16.7. Additional information

No data available