INACT FLUX NC 5070, 5 G, 5 CC

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

1.1 Product identifier

Trade name : INACT FLUX NC 5070, 5 G, 5 CC

Product code : 81067712

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

Use of the Substance/Mixture : Industrial use, Electrical industry and electronics

1.3 Details of the supplier of the safety data sheet

Company : Heraeus Deutschland GmbH & Co. KG
Heraeusstr. 12-14
63450 Hanau

Telephone : +496181351

E-mail address of person responsible for the SDS : sds@heraeus.com
(Heraeus Holding: EHS Chemical Safety)

1.4 Emergency telephone number

Emergency telephone number : +49 6132-84463
International Emergency Number
This telephone number is available 24 hours per day, 7 days per week.

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Serious eye damage, Category 1	H318: Causes serious eye damage.
Chronic aquatic toxicity, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements : H318 Causes serious eye damage.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P273 Avoid release to the environment.
P280 Wear eye protection/ face protection.

Response:

P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

Hazardous components which must be listed on the label:
2-ethylhexane-1,3-diol

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Chemical nature : Mixture

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
2-ethylhexane-1,3-diol	94-96-2 202-377-9 603-087-00-9	Eye Dam. 1; H318	>= 20 - < 30
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-	9004-77-7 500-012-0	Eye Irrit. 2; H319	>= 10 - < 20
Ethoxylated coco alkyl amines	61791-14-8 500-152-2	Acute Tox. 4; H302 Skin Irrit. 2; H315 Eye Dam. 1; H318 Aquatic Chronic 2; H411	>= 3 - < 5
malonic acid	141-82-2 205-503-0	Acute Tox. 4; H302 Eye Dam. 1; H318	>= 3 - < 5

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : First aider needs to protect himself.
Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.

If inhaled : Move to fresh air.

In case of skin contact : Take off all contaminated clothing immediately.
Wash off with:
Polyethylene glycol 400.

In case of eye contact : In case of eye contact, remove contact lens and rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Keep eye wide open while rinsing.
Protect unharmed eye.
Call a physician immediately.

If swallowed : Immediately give large quantities of water to drink.
Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed

Risks : Causes serious eye damage.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Unsuitable extinguishing media : Water spray jet

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Exposure to decomposition products may be a hazard to health.

Hazardous combustion products : Carbon oxides
Nitrogen oxides (NOx)
Carbon dioxide (CO2)

5.3 Advice for firefighters

Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
Further information	:	Use a water spray to cool fully closed containers. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Follow safe handling advice and personal protective equipment recommendations. Ensure adequate ventilation. Evacuate personnel to safe areas. Refer to protective measures listed in sections 7 and 8.

6.2 Environmental precautions

Environmental precautions	:	Do not allow contact with soil, surface or ground water. Do not let product enter drains.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Sweep up or vacuum up spillage and collect in suitable container for disposal.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling	:	Provide sufficient air exchange and/or exhaust in work rooms. Wear personal protective equipment. Avoid inhalation, ingestion and contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area.
Hygiene measures	:	Keep away from food and drink. Wash hands before breaks and at the end of workday. Keep working clothes separately. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Keep tightly closed in a dry, cool and well-ventilated place.

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Contains no substances with occupational exposure limit values.

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-	Workers	Inhalation	Long-term systemic effects	195 mg/m3
	Workers	Skin contact	Long-term systemic effects	208 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	117 mg/m3
	Consumers	Skin contact	Long-term systemic effects	125 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	12.5 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-	Fresh water	4.5 mg/l
	Marine water	0.31 mg/l
	Sewage treatment plant	500 mg/l
	Fresh water sediment	6.6 mg/kg
	Marine sediment	0.66 mg/kg
	Soil	1.02 mg/kg
	Oral (Secondary Poisoning)	333 mg/kg food

8.2 Exposure controls

Engineering measures

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment

Eye protection : Safety glasses with side-shields

Hand protection

Remarks : Before removing gloves clean them with soap and water. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Please observe the instructions regarding permeability and break-

through time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. As the product is a mixture of several substances, the durability of the glove materials cannot be calculated in advance and has to be tested before use.

Skin and body protection : Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection : Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.

Filter type : Recommended Filter type:

Filter type ABEK-P

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	paste
Colour	:	colourless
Odour	:	solvent-like
Odour Threshold	:	No data available
pH	:	4.8 (25 °C)
Melting point/range	:	No data available
Boiling point/boiling range	:	244 °C (1,013 hPa)
Flash point	:	113 °C(1,013 hPa)
Evaporation rate	:	No data available
Flammability (solid, gas)	:	Not applicable
Upper explosion limit	:	No data available
Lower explosion limit	:	No data available
Vapour pressure	:	<= 1,100 hPa (50 °C)
Relative vapour density	:	No data available

Relative density	:	No data available
Density	:	1.025 g/cm3 (23 °C, 1,013 hPa)
Solubility(ies)		
Water solubility	:	insoluble (20 °C, 1,013 hPa)
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	> 40 mm2/s (23 °C)
		> 20.5 mm2/s (40 °C)
Explosive properties	:	Not applicable
Oxidizing properties	:	Not applicable

9.2 Other information

Self-ignition	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	No dangerous reaction known under conditions of normal use.

10.4 Conditions to avoid

Conditions to avoid	:	No data available

10.5 Incompatible materials

Materials to avoid	:	No data available

10.6 Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:

2-ethylhexane-1,3-diol:

Acute oral toxicity : LD50 (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rabbit): > 5,000 mg/kg

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 401

Acute dermal toxicity : LD50 (Rabbit): 3,540 mg/kg
Remarks: Based on data from similar materials

Ethoxylated coco alkyl amines:

Acute oral toxicity : LD50 (Rat): 500 - 2,000 mg/kg

malonic acid:

Acute oral toxicity : LD50 (Rat): 1,310 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 8.9 mg/l
Exposure time: 1 h
Test atmosphere: dust/mist

Skin corrosion/irritation

Not classified based on available information.

Components:

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Ethoxylated coco alkyl amines:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Serious eye damage/eye irritation

Causes serious eye damage.

Components:

2-ethylhexane-1,3-diol:

Species: Rabbit
Result: Irreversible effects on the eye

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritation to eyes, reversing within 21 days

Ethoxylated coco alkyl amines:

Result: Irreversible effects on the eye

malonic acid:

Result: Irreversible effects on the eye
Remarks: Based on data from similar materials

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative
Remarks: Based on data from similar materials

Germ cell mutagenicity

Not classified based on available information.

Components:

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471

Result: negative
Remarks: Based on data from similar materials

Ethoxylated coco alkyl amines:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative

malonic acid:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

Carcinogenicity

Not classified based on available information.

Reproductive toxicity

Not classified based on available information.

Components:

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on data from similar materials

STOT - single exposure

Not classified based on available information.

STOT - repeated exposure

Not classified based on available information.

Repeated dose toxicity

Components:

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Species: Rat
NOAEL: 400 mg/kg
LOAEL: 1,200 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Method: OECD Test Guideline 408
Remarks: Based on data from similar materials

Aspiration toxicity
Not classified based on available information.

SECTION 12: Ecological information

12.1 Toxicity

Components:

2-ethylhexane-1,3-diol:

Toxicity to fish	:	LC50 (Ictalurus punctatus (channel catfish)): 624 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Toxicity to fish	:	LC50 (Scophthalmus maximus (turbot)): > 1,800 mg/l Exposure time: 96 h Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 3,200 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to algae	:	ErC50 (Skeletonema costatum (marine diatom)): 391 mg/l Exposure time: 72 h Method: ISO 10253 EC10 (Skeletonema costatum (marine diatom)): 188 mg/l Exposure time: 72 h Method: ISO 10253
Toxicity to microorganisms	:	IC50 : > 5,000 mg/l Exposure time: 16 h Remarks: Based on data from similar materials

Ethoxylated coco alkyl amines:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 7.5 mg/l Exposure time: 96 h
Toxicity to daphnia and other	:	EC50 (Daphnia magna (Water flea)): 9.5 mg/l

aquatic invertebrates — Exposure time: 48 h

Toxicity to microorganisms : EC50 : 740 mg/l
Exposure time: 4 h

malonic acid:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 150 mg/l
Exposure time: 24 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 275 mg/l
Exposure time: 48 h

12.2 Persistence and degradability

Components:

2-ethylhexane-1,3-diol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 93 %
Exposure time: 28 d
Method: OECD Test Guideline 301

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 68 %
Exposure time: 28 d

Ethoxylated coco alkyl amines:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 50 %
Exposure time: 28 d
Method: OECD Test Guideline 301B

malonic acid:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 76.4 %
Exposure time: 5 d

12.3 Bioaccumulative potential

Components:

Poly(oxy-1,2-ethanediyl), α-butyl-ω-hydroxy-:

Partition coefficient: n-octanol/water : log Pow: 0.436

malonic acid:

Partition coefficient: n-octanol/water : log Pow: -0.91

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : If recycling is not practicable, dispose of in compliance with local regulations.

Contaminated packaging : Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

14.2 UN proper shipping name

Not regulated as a dangerous good

14.3 Transport hazard class(es)

Not regulated as a dangerous good

14.4 Packing group

Not regulated as a dangerous good

14.5 Environmental hazards

Not regulated as a dangerous good

14.6 Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII)	:	Not applicable
REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
REACH - List of substances subject to authorisation (Annex XIV)	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.
Not applicable

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.
Take note of Directive 92/85/EEC regarding maternity protection or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H302	:	Harmful if swallowed.
H315	:	Causes skin irritation.
H318	:	Causes serious eye damage.
H319	:	Causes serious eye irritation.
H411	:	Toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Eye Dam.	:	Serious eye damage

Eye Irrit.	:	Eye irritation
Skin Irrit.	:	Skin irritation

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Classification of the mixture:		**Classification procedure:**
Eye Dam. 1	H318	Calculation method
Aquatic Chronic 3	H412	Calculation method

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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