

safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

Version 1.3en

Date of compilation: 28.10.20

date of revision: 05.08.2020

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

1 Product identifier the product Isantin (mixture)

Product codes: Isantin B, Isantin C, Isantin M, Isantin W

„safety data sheet according to (EG) Nr. 1907/2006“

Substance name	CAS-number	weight %	conz. limit	density g/cm ³ , 20°C	EG-number	IUPAC name
E-Indigo (purified) (C.I. 73000) no UVCB	482-89-3 naturalis: 68651-46-7	< 50	none	1.35	207-586-9	2-(3-hydroxy-1H-indol-2-yl)indol-3-one
Ethanol	64-17-5	> 10	≥ 30 %: H319	0.79	200-578-6	ethanol
2-Butanone, Methyl ethyl ketone (MEK)	78-93-3	≤ 1	≤ 2 %	0.805	201-159-0	butan-2-one
2-Propanol Isopropanol	67-63-0	≤ 1	≤ 2 %	0.78	200-661-7	propan-2-ol
Anisole Methoxybenzene	100-66-3	≥ 1	< 50 %	0.994	202-876-1	Anisole
Denatoniumbenzoate	3734-33-6	< 0.1	< 0.1	1.126	223-095-2	benzyl-[2-(2,6-dimethylanilino)-2-oxoethyl]-diethylazanium;benzoate

Identified uses: Lubricant for winter sports (coating)

Uses advised against: Not for food, drug, pesticide, or biocidal product use

Life cycle stage [SU]: SU21 – Consumer uses

Chemical Products Categories [PC]: PC31 - Polishes and wax blends

Environmental Release Categories [ERC]: ERC8a - Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor); ERC 8d - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor).

1.2 Relevant identified uses of the substance or mixture and uses advised against. None known

1.3 Details of the supplier of the safety data sheet

Isantin GmbH

Dr. Peter Bützer

Rebhaldenstrasse 2

CH- 9450 Altstätten

Phone: +41 71 755 40 08

e-Mail: info@isantin.ch

Competent person responsible for the safety data sheet:

Dr. Peter Bützer









1.4 Emergency telephone number

Country Name	Street	Postcode/ City	Phone	Website
Germany Poison Centre Munich	Ismaninger Str. 22	D-81675 München	+49)89 19240	http://www.toxinfo.med.tum.de/inhalt/giftnotrufmuenchen
Austria (Poison Center) Vergiftungsinformationszentrale	Stubenring 6	A-1010 Vienna	+43 1 406 43 43	https://goeg.at
Switzerland (Poison Center) Tox Info Suisse	Freiestrasse 16	CH-8032 Zürich	+41 44 251 66 66 In case of emergency from abroad + 41 44 251 51	Info@toxinfo.ch

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP), Classification as mixture (EG) 1272/2008, GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Substance name	CAS-number EC number	GHS Code	Source	Hazard Class	Hazard statement Code(s)	Signal-word	Pictogram Concentration Limits	Precautionary statements Code(s)
E-Indigo ¹ (C.I. 73000)	482-89-3 207-586-9	-	ECHA	Aniline <0.1%	<i>pure:</i> <i>no H-code</i>	-	purified: no Label	rein kein P
Ethanol	64-17-5 200-578-6	GHS02	ECHA	Flam.Liq. 2 STOT SE 3 Eye Irrit. 2	H225	Danger	  (≥ 50%: Eye Irrit. 2A, H319)	P210, P240, P305+P351+ P338 P403+P233
2-Butanone Methyl- ethylketone MEK	78-93-3 201-159-0	GHS02 GHS07	ECHA	Flam.Liq. 2 STOT SE 3 Eye Irrit. 2	H225, H319, H336	Danger	  C≥ 1%	P210, P305+P351+ P338, P403+P233
2-Propanol Isopropanol	67-63-0 200-661-7	GHS02 GHS07	ECHA	Flam.Liq. 2 STOT SE 3 Eye Irrit. 2	H225, H319, H336	Danger	  C≥ 1%	P210, P233, P240, P305+P351+P3 38, P403+P235
Anisole Methoxy- benzene	100-66-3 202-876-1	GHS02 GHS07	GESTIS	Flam.Liq. 3	H226, H315, H319	Warning	  C≥ 1%	P210, P233, P241, P243. P280, P305+P351+ P338

Remarks: Full text of hazard statements and EU hazard statements in SECTION 16.
Labelling for packaging not exceeding 125 ml is required, but not the H and P codes.

2.2 Other hazards

Since the substances are flammable, avoid the formation of deposits and dust in the air. Avoid clouds of dust in a closed or unventilated room, as dust can form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds, which can be caused by the fine grinding of the solid after drying, represent a special danger.

SECTION 3: Composition/information on ingredients

3.1 Mixtures

In accordance with Annex II of Regulation (EC) n°1907/2006 (point 3), the product contains:

Substance name	CAS-number	Weight percentage	Physical state	Colour	Odor	Molecular formula	Molar mass g/mol	pKa
E-Indigo (C.I. 73000) rein	482-89-3 68651-46-7	≥ 3	solid	dark blue	dull, musty	C ₁₆ H ₁₀ N ₂ O ₂	262.26	pKa ₁ : 8.0 pKa ₂ : 12.7
Ethanol	64-17-5	≥ 10 - ≤ 98	liquid	colourless	spirituous	C ₂ H ₆ O	46.07	15.7
2-Butanone	78-93-3	≤ 2	liquid	colourless	acetone-like	C ₄ H ₈ O	72.11	-
2-Propanol Isopropanol	67-63-0	≤ 2	liquid	colourless	alcohol-like	C ₃ H ₈ O	60.10	17.1 (25°C)
Anisole	100-66-3	< 50	liquid	colourless	anis-like	C ₇ H ₈ O	108.14	-
other mixture components	3734-33-6	< 0.1 resp. < 0.0012	solid	colourless	odourless	C ₂₁ H ₂₉ N ₂ O · C ₇ H ₅ O	446.58	4.05



SECTION 4: First aid measures

4.1 Description of first aid measures



The symptoms resulting from intoxication can appear after exposure, therefore, in case of doubt, seek medical attention for direct exposure to the chemical product or persistent discomfort.

By Inhalation

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

By skin contact

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

By eye contact

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

By ingestion/aspiration

Request medical assistance immediately, showing the SDS of this product. Do not induce vomiting, but if it does happen keep the head down to avoid aspiration. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Rinse out the mouth and throat, as they may have been affected during ingestion. Keep the person affected at rest.

4.2 Most important symptoms and effects, both acute and delayed

Acute and delayed effects are indicated in sections 2 and 11.

4.3 Indication of any immediate medical attention and special treatment needed: Non-applicable

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings
water spray, alcohol resistant foam, dry extinguishing powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet.

5.2 Special hazards arising from the substance or mixture

Combustible. In case of insufficient ventilation and/or in use, may form flammable/explosive vapour-air mixture. The solid is poorly combustible but can lead to dust explosions when dry.

Protective Action Criteria (PAC): PAC-2 (mg/m³): Indigo: 8 (estimated), Ethanol: 6200, 2-Butanone: 8000, 2-Propanol: 4800, Anisole: 18 (source: U.S. Office of Environment, Health, Safety & Security, Version 29A)

Hazardous combustion products

In case of fire may be liberated: carbon monoxide (CO), carbon dioxide (CO₂), Nitrogen oxides (NO_x), Do not inhale explosion and fire gases.

5.3 Advice for firefighters

Solvent vapours are heavier than air and may spread along floors. Beware of reignition. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.



SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Do not breathe vapour/spray. Avoid contact with skin, eyes and clothes. Removal of ignition sources.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Danger of explosion.

6.3 Methods and material for containment and cleaning up

Advices on how to contain a spill

Covering of drains.

Advices on how to clean up a spill

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide adequate ventilation as well as local exhaustion at critical locations. Keep container tightly closed.

Measures to prevent fire as well as aerosol and dust generation



Keep away from sources of ignition - No smoking. Removal of dust deposits. Take precautionary measures against static discharge.

Advice on general occupational hygiene

Do not eat, drink or smoke when using this product. Wash hands before breaks and after work. Keep away from food, beverages and feed.

7.2 Conditions for safe storage, including any incompatibilities

Store in a well-ventilated place. Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice

Ground/bond container and receiving equipment.

Ventilation requirements

Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C.

7.3 Specific end use(s)

Usually used as dye, rarely as semiconductor or lubricant.



SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

country	name of agent	CAS-Nr.	note	identifier	SMW [mg/m ³]	KZW [mg/m ³]	source
DE	Indigo, dust	68651-46-7	i	AGW	10	20	TRGS 900
DE	Indigo, dust	68651-46-7	r	AGW	1.25	2.4	TRGS 900
CH	Indigo, dust	68651-46-7	i	MAK	10		SUVA 2018
CH	Indigo, dust	68651-46-7	r	MAK	3		SUVA 2018
DE	Ethanol	64-17-5		AGW	960	1920	TRGS 900
CH	Ethanol	64-17-5		MAK	960	1920	SUVA 2017
DE	2-Butanone	78-93-3		AGW	600	600	TRGS 900
EU	2-Butanone	78-93-3		IOELV	600	900	2000/39/EG
CH	2-Butanone	78-93-3		MAK	590	590	SUVA 2017
DE	2-Propanol	67-63-0		AGW	200	500	TRGS 900
CH	2-Propanol	67-63-0		MAK	500	1000	SUVA 2017
DE	Anisole	100-66-3		-	-	-	TRGS 900
CH	Anisole	100-66-3		-	-	-	SUVA 2017

Notes: i: Inhalable fraction; KZW: Short-term value (Kurzzeit-Wert, limit value for short-term exposure): Limit value which should not be exceeded, unless otherwise stated, based on a duration of 15 minutes,

r: alveolar fraction, SMW shift average (limit value for long-term exposure): time-weighted average measured or calculated over an 8-hour reference period.

Biological limit value

country	name of agent	parameter	Identifier	value mg/l	material	source
DE	2-Butanone	Ethyl methyl ketone	BLV	2	urine	DFG
DE	2-Butanone	Ethyl methyl ketone	BLV	2	urine	TRGS 903
DE	2-Propanol	Acetone	BLV	25	blood	TRGS 903
DE	2-Propanol	Acetone	BLV	25	urine	TRGS 903

Human health values DNEL of components of the mixture

name of agent	CAS-Nr	end-point	threshold level	protection goal, route of exposure	used in	exposure time
Indigo	68651-46-7	DNEL	10 mg/m ³	human, inhalative dust	workers (industry)	acute - systemic effects
Indigo	68651-46-7	DNEL	3 mg/m ³	human, respirative dust	workers (industry)	acute - systemic effects
Ethanol	64-17-5	DNEL	1.900 mg/m ³	human, inhalative	workers (industry)	acute - systemic effects
Ethanol	64-17-5	DNEL	343 mg/kg	human, dermal	workers (industry)	chronic - systemic effects
Ethanol	64-17-5	DNEL	950 mg/m ³	human, inhalative	workers (industry)	chronic - systemic effects
2-Butanone	78-93-3	DNEL	1161 mg/kg/day	human, dermal	workers (industry)	chronic - systemic effects
2-Butanone	78-93-3	DNEL	600 mg/m ³	human, inhalative	workers (industry)	chronic - systemic effects
2-Propanol	67-63-0	DNEL	500 mg/m ³	human, inhalative	workers (industry)	chronic - systemic effects
2-Propanol	67-63-0	DNEL	888 mg/kg /day	human, dermal	workers (industry)	chronic - systemic effects
Anisole ²	100-66-3	DNEL	3 000 mg/m ³	human, inhalative	workers (industry)	subacute to chronic systemic effects

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

environmental values (note: the solubility of indigo in water: 0.001 mg/cm³)

name of agent	CAS-Nr.	end-point	threshold level	environment compartment	exposure time
Indigo	482-89-3 68651-46-7	PNEC	7.8 mg/cm ³	freshwater	continuous
Ethanol	64-17-5	PNEC	0.79 mg/cm ³	marine water	continuous
Ethanol	64-17-5	PNEC	2.75 mg/cm ³	air	continuous
Ethanol	64-17-5	PNEC	3.6 mg/cm ³	freshwater sediment	continuous
Ethanol	64-17-5	PNEC	0.96 mg/cm ³	freshwater	continuous
Ethanol	64-17-5	PNEC	580 mg/cm ³	sewage treatment plant (STP)	continuous
Ethanol	64-17-5	PNEC	0.63 mg/cm ³	soil	continuous
2-Butanone	78-93-3	PNEC	55.8 mg/cm ³	marine water	continuous
2-Butanone	78-93-3	PNEC	55.8 mg/cm ³	air	continuous
2-Butanone	78-93-3	PNEC	285 mg/cm ³	freshwater sediment	continuous
2-Butanone	78-93-3	PNEC	55.8 mg/cm ³	freshwater	continuous
2-Butanone	78-93-3	PNEC	709 mg/cm ³	sewage treatment plant (STP)	continuous
2-Butanone	78-93-3	PNEC	22.5 mg/cm ³	soil	continuous
2-Propanol	67-63-0	PNEC	160 mg/kg	water	short-term exposure
2-Propanol	67-63-0	PNEC	140.9 mg/l	water	intermittent release
2-Propanol	67-63-0	PNEC	140.9 mg/l	freshwater	short-term exposure
2-Propanol	67-63-0	PNEC	140.9 mg/l	marine water	short-term exposure
2-Propanol	67-63-0	PNEC	2251 mg/l	sewage treatment plant (STP)	short-term exposure
2-Propanol	67-63-0	PNEC	552 mg/kg	freshwater sediment	short-term exposure
2-Propanol	67-63-0	PNEC	552 mg/kg	marine water sediment	short-term exposure
2-Propanol	67-63-0	PNEC	28 mg/kg	soil	short-term exposure
Anisole	100-66-3	PNEC	27 µg/l	freshwater	short-term exposure
Anisole	100-66-3	PNEC	2.7 µg/l	marine water	short-term exposure
Anisole	100-66-3	PNEC	30 mg/l	marine water sediment	short-term exposure
Anisole	100-66-3	PNEC	0.745 mg/kg	freshwater sediment	short-term exposure
Anisole	100-66-3	PNEC	0.074 mg/kg	marine water sediment	short-term exposure
Anisole	100-66-3	PNEC	0.133 mg/kg	soil	short-term exposure

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

type of material

Butyl caoutchouc (butyl rubber), NBR (nitril caoutchouc)

material thickness

0.7 mm.

breakthrough times of the glove material

>30 minutes (permeation level: 2)

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Flame-retardant protective clothing.

Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C, colour code: Brown), Dust formation. Particle filter device (EN 143). P1 (filters at least 80 % of airborne particles, identification colour: white). The wearing time limits according to GefStoffV in conjunction with the rules for the use of respiratory protection equipment (BGR 190) must be observed.

Environmental exposure controls

Keep away from drains, surface water and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties (E-Indigo as solid in dispersion)

Appearance

Physical state

solid/liquid (dispersion)

Colour

dark blue, copper lustre

Odour

some acetone similar, dull/musty

Odour threshold

no data available for pure Indigo

Sonstige physikalische und chemische Kenngrößen Festkörper

pH-value

7.5 - 9 (20 °C)

Melting point/freezing point

approx. 390-392 °C (sublimation approx. 170 °C)

Boiling start and boiling range

first sublimation, then decomposition

Flash point

> 220 °C

Evaporation rate

no data available

Flammability (solid, gaseous)

> 350 °C (Auto-ignition temperature)

Explosion limits

• lower explosion limit (LEL)

ca. 200 g/m³ (dust) = minimum explosible concentration (MEC)

• upper explosion limit (UEL)

no data available

Explosion limits of dust/air mixtures

dust explosion of over 200 g/m³ was observed. The minimum ignition energy is between 320 and 650 mJ with a particle size up to 330 µm

Vapour pressure

< 3.5E-5 Pa at 100°C

Density

approx. 1.35 g/cm³ at 20 °C (PubChem) bis 1.50 (cryst.)

Vapour density

No data available.

Relative Density, vapour/air-mixture (air=1)

No information is available on this property

Solubilities: Water solubility

0.99 mg/L (25 °C, OECD SIDS), 0.05 mg/L (ECHA)

Partition coefficient: n-octanol/water (log Kow)

2.7 (23 °C, OECD SIDS); 3.72 (TOXNET)

Auto-ignition temperature

No information is available on this property

Decomposition temperature

>= 400 °C (E-indigo)

Viscosity

Not relevant (solid)

Explosive properties

dust

Oxidising properties

none

Note: The different tautomers of indigo can have different properties in different environments

Other physical and chemical parameters: Dispersing agent (liquid)

Physical state

liquid

Colour

colourless

Odour

anise-like, spritty, similar to acetones, dull/musty

Odour threshold

Anisole: 0.057, Ethanol: 10, 2-Butanone: 5-8

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

pH-Wert	7 (water: 10 g/l 20 °C), pKa: 16 (Ethanol)
Melting point/freezing point	ca. -114 °C/78 °C
Boiling start and boiling range	79-153 °C
Flash point	17.5-44 °C (90 mass-%)
Evaporation rate	8.3-20 (start → end)
Flammability (solid, gaseous)	> 350 °C (Auto-ignition temperature)
<u>Explosion limits</u>	
• lower explosion limit (LEL)	3.1 Vol-%
• upper explosion limit (UEL)	27.7 Vol-%
Vapour pressure	58.0 hPa 20 °C
Density	0.79-0.99 g/cm ³
Relative gas density	Ethanol: 1.59, 2-Propanol: 2.1, 2-Butanone: 1.03, Anisole: 3.7
Relative Density, vapour/air-mixture (air=1)	approx. 0.79 g/cm ³ at 20 °C
<u>Solubility(ies):</u> Water solubility (20°C) mg/L	Anisole: 1710, Ethanol, 2-Propanol: completely miscible, 2-Butanone: 210'000
<u>Partition coefficient:</u> n-Octanol/water (log Kow)	Ethanol: -0.31, 2-Propanol: 0.05, 2-Butanone: 0.29, Anisole: 2.11, Indigo. 2.7 (20 °C, OECD SIDS); 3.72 (TOXNET)
Auto-ignition temperature	Ethanol: 400 °C, 2-Propanol: 399 °C, 2-Butanone: 505 °C, Anisole: 475 °C
Decomposition temperature	Decomposition of anisole starts at 477°C and a conversion degree of 50% is obtained at about 577°C
Viscosity	Ethanol: 1.144 mPa·s (20 °C), 2-Butanone: 0.4284 mPa·s (20°C), 2-Propanol: 1.96 mPa·s (25 °C), Anisole: 1.52 mPa·s (15 °C); 0.778 mPa·s (30° C)
Explosive properties	Shall not be classified as explosive
Oxidising properties	none

9.2 Other information

For ethanol: Temperature class (EU, acc. to ATEX) T2 (Maximum permissible surface temperature on the equipment: 300°C)
During evaporation, the final liquid is anisole with dispersed indigo.

SECTION 10: Stability and reactivity

10.1 Reactivity

Risk of ignition. Vapours can form explosive mixtures with air. The dry product is not dust explosive in the delivered form; however, the accumulation of fine dust leads to a dust explosion hazard.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Violent reaction with: Alkali metals, Alkaline earth metal, Acetic anhydride, Peroxides, Phosphorus oxides (e.g. P₂O₅), Strong oxidiser, Nitric acid, Nitrate, Perchlorates, => Explosive properties

10.4 Conditions to avoid

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

10.5 Incompatible materials

Certain plastics and rubbers

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

The mixture shall not be classified as acutely toxic.

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

name of agent	exposure route	endpoint	value	species	source
Indigo ^a	oral	LD ₅₀	>5000 mg/kg	rat	OECD SIDS
Indigo	inhalative: vapour	LC ₅₀	0.08 mg/l/4hr	rat	OECD SIDS
Indigo	dermal	LD ₅₀	2000 mg/kg	rat	OECD SIDS
Ethanol	oral	LD ₅₀	10470 mg/kg	rat	OECD-401
Ethanol	inhalative: vapour ^b	LD ₅₀	125 mg/l/4hr	rat	OECD-403
2-Butanone	oral	LD ₅₀	2600-5400 mg/kg	rat	OECD SIDS Draft
2-Butanone	inhalative: vapour	LD ₅₀	> 5000 mg/kg	rat	OECD SIDS Draft
2-Propanol	inhalative: vapour	LC ₅₀	72.6 mg/l/4h	rat	OECD SIDS
2-Propanol	oral	LD ₅₀	4710 - 5840 mg/kg	rat	OECD SIDS
Anisole	inhalative: vapour	LC ₅₀	> 6.51 mg/l/4h	rat	ECHA
Anisole	oral	LD ₅₀	3700 mg/kg	rat	TOXNET

a) Indigo: For human health, the estimated dose of low concern (EDLC) has been calculated at 12 mg/kg/day and 5 mg/kg/day for repeated dose and reproductive toxicity respectively, using a safety factor of 100 (OECD SIDS).

b) Vapours may cause drowsiness and dizziness.

- **Skin corrosion/irritation**
Shall not be classified as corrosive/irritant to skin.
- **Serious eye damage/eye irritation**
Causes serious eye irritation.
- **Respiratory or skin sensitisation**
May cause respiratory tract irritation.
- **Summary of evaluation of the CMR properties**

The liquid shall not be classified as germ cell mutagenic, carcinogenic nor as a reproductive toxicant. The solid Indigo is not classified as germ cell mutagenic, carcinogenic or toxic for reproduction (ECHA). (Toxic to reproduction/teratogenic advice: Indigo: NOEL F1 offspring = 500 mg/kg/day; OECD SIDS).

components, CAS-Nr.	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens
Indigo, 482-89-3	Not listed	Not listed	Not listed	Not listed
Ethanol, 64-17-5	Not listed	Not listed	Not listed	Not listed
2-Butanone, 78-93-3	Not listed	Not listed	Not listed	Not listed
2-Propanol, 67-63-0	Not listed	Not listed	Not listed	Not listed
Anisole, 100-66-3	Not listed	Not listed	Not listed	Not listed
Denatoniumbenzoate, 3734-33-6	Not listed	Not listed	Not listed	Not listed

Carcinogenicity: No ingredient of this product present in a concentration equal to or greater than 0.1% is identified by IARC as a probable, possible or proven carcinogen for human exposure.

- **Specific target organ toxicity - single exposure**
Shall not be classified as a specific target organ toxicant (single exposure).
- **Specific target organ toxicity - repeated exposure**
Shall not be classified as a specific target organ toxicant (repeated exposure).
- **Aspiration hazard**
May cause respiratory tract irritation.

Symptoms related to the physical, chemical, and toxicological characteristics

- **If swallowed**
Gastro-intestinal problems, nausea, vomiting. May damage the liver and kidneys if swallowed during prolonged or repeated exposure.
- **If in eyes**
Causes serious eye irritation
- **If inhaled**
vertigo, Inebriation, narcosis, breathing difficulties
- **If on skin**
Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation)

article: **Isantin****Other information**

Based on experimental values and their interpretation, indigo did not show harmful systemic or local effects at either short- or long-term exposure. Therefore, there is no risk to the consumer from the intended use of the respective articles (ECHA).

Indigo: Endocrine Disruptors: Estrogenic, Androgenic and Thyroid Receptors: No Alerts (QSAR: OPERA, VEGA)

SECTION 12: Ecological information

12.1 Toxicity according to 1272/2008/EC: not to be classified as hazardous to water.

(Acute) aquatic toxicity (source: OECD SIDS) (note: the water solubility of indigo: 0.99 mg/L)

name of agent	Log (K _{ow})	endpoint	value	species	exposure time	source
Indigo	3.1	LC ₅₀	> 1000 mg/l	Fish (<i>Oryzias latipes</i> , acute)	96 h	OECD-SIDS
Indigo	3.1	LC ₅₀	>1000 mg/l	<i>Oryzias latipes</i>	96 h	OECD-SIDS
Indigo	3.1	LC ₅₀ EC ₅₀ (Reproduction) NOEC (Reproduction)	2.6 mg/l 1.6 mg/l 0.78 mg/l	<i>Daphnia magna</i>	21 d 21 d 21d	OECD-SIDS
Indigo	3.1	EC ₅₀	6.5 mg/l	<i>Selenastrum Capricornutum</i> (Alge)	72 h	OECD-SIDS
Ethanol	-0.3	EC ₅₀	12'340 mg/l	<i>Daphnia magna</i>	48 h	OECD-SIDS
Ethanol	-0.3	LC ₅₀	1000 mg/l	<i>Palaemonetes kadiakensis</i>	18 h	OECD-SIDS
2-Butanone	0.29	LC ₅₀	7060 mg/l	<i>Daphnia magna</i>	48 h	OECD SIDS
2-Butanone	0.29	LC ₅₀	3220 mg/l	<i>Pimephales promelas</i>	96 h	OECD SIDS
2-Propanol	0.05	LC ₅₀	> 10000 mg/l	<i>Daphnia magna</i>	24 h	OECD SIDS
2-Propanol	0.05	LC ₅₀	9640 mg/l	<i>Pimephales promelas</i>	96 h	OECD SIDS
Anisole	2.11	EC ₅₀	27 mg/l	<i>Daphnia magna</i>	48 h	ECHA
Anisole	2.11	LC ₅₀	>1 mg/l	Zebrafish (<i>Danio rerio</i>)	96 h	ECOTOX Database
Anisole	2.11	ErC ₅₀	47 mg/l	Alge	72 h	ECHA

Aquatic toxicity (chronic) (note: the water solubility of indigo: 0.99 mg/L)

name of agent	Log (K _{ow})	endpoint	value	species	exposure time	source
Indigo	3.1	LC ₅₀	2.6 mg/l	<i>Daphnia magna</i>	21d	OECD SIDS
Ethanol	-0.3	LC ₅₀	11'200 mg/l	<i>Salmo gairdneri</i>	96 h	OECD SIDS
Ethanol	-0.3	LC ₅₀	12'340 mg/l	<i>Daphnia magna</i>	48 h	OECD SIDS
2-Butanone	0.29	LC ₅₀	3220 mg/l	<i>Pimephales promela</i>	48 h	OECD SIDS
2-Butanone	0.29	LC ₅₀	5091 mg/l	<i>Daphnia magna</i>	48 h	OECD SIDS
2-Propanol	0.05	NOEC	141 mg/l	<i>Daphnia magna</i> (Crustacea)	16 d	OECD SIDS
Anisole	2.11	EC ₅₀	27 mg/l	Freshwater invertebrates	48 h	ECHA
Anisole	2.11	EC ₅₀	162	Freshwater algae	4 d	ECHA
Anisole	2.11	NOEC	300 mg/l	Microorganisms	3 h	ECHA

12.2 Process of degradability

Indigo: CAS no. 482-89-3, EC no. 207-586-9, InChI Key: COHYTHOBIJLSHDF-BUHFOSPRSA-N. Not readily biodegradable (622 days at pH 4, 25 °C), but there is no evidence of possible bioaccumulation of indigo (ECHA). Theoretical oxygen demand with nitrification: 2.211 mg/mg. Direct photolytic degradation in water: T_{1/2} = 0.112 y (OECD SIDS). In soil: anaerobic/bacterial: 90% in 60 days.

Ethanol: readily degradable, 74% in 5 days, no bioaccumulation log(BCF) = 0.5 (OECD, SIDS).

Anisole: Biodegradability approx. 68% (OECD test guideline 301D): readily biodegradable

Theoretical oxygen demand: Indigo: 1.952 mg/mg (BSB5: <150 mg O₂/g), Anisole: 2.52 mg/mg

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

Theoretical carbon dioxide: Indigo: 2,685 mg/mg (CBS: 1680 mg O₂/g), Anisole: 2,849 mg/mg
PEC (Predicted Effect Concentration) Indigo: The worst estimated concentrations are: 7.7-10-12 mg/l (air), 2.6-10-4 mg/l (water), 5.1-10-4 mg/kg (soil), 2.2-10-2 mg/kg (sediment), but the PNEC (Predicted No Effect Concentration) is: 0.0078 mg/l. As the PEC is lower than the PNEC, possible environmental damage is expected to be very small (OECD SIDS).

Degradation products of indigo:

Isatin: CAS No. 91-56-5, EC number 202-077-8, name: 1H-indole-2,3-dione, InChI Key: JXDYKVIHCLTXOP-UHFFFAOYSA-N. LogP: 0.83, MP: 203°C, Relative density at 20°C: 1.471, water solubility approx. 15400 mg/l, vapour pressure: 1e-6 mmHg @ 25°C (est). acute toxicity rate LD₅₀ (oral): 5000 mg/kg, Daphnia: EC₅₀ (48 h): 692.43 mg/L (est.), Algae: Freshwater: EC₅₀ (72 h): 329.98 mg/L, EC 1.4.3.4 (monoamine oxidase) inhibitor. Is further oxidatively converted to anthranilic acid via isatoic anhydride (then: C₆H₄C₂O₃NH + ROH → C₆H₄(CO₂R)(NH₂) + CO₂).

Anthranilic acid: CAS no. 118-92-3; EC no.: 204-287-5, InChI Key: RWZYAGGXGHYGM-B-UHFFFAOYSA-N water solubility: 3500 mg/L (20°C); log(Kow): 1.21 (TOXNET), Fish: LC₅₀ = 100-200 mg/L (96h), Daphnia: EC₅₀ = 85 mg/L (48h). Decomposition of anthranilic acid according to equation: 2 C₇H₇NO₂ + 9 O₂ → 7 CO₂ + NH₄⁺ + NO₃⁻ + 5 H₂O.

Degradation rates

name of agent	process	degradation rate	time	source
Indigo	biotic/abiotic	0 %	28 d	OECD SIDS
	anaerobic/bacterial	90 %	60 d	ECHA
Ethanol	aerobic	95 %	15 d	OECD SIDS
2-Butanone	aerobic	83 %	5 d	OECD SIDS
2-Propanol	aerobic	49 %	5 d	OECD SIDS
Anisole	aerobic	50 %	22 h	PubChem
	Water	56 %	14 d	ECHA

Degradation product of anisole (only occurring in traces after application): Phenol (CAS No 108-95-2); InChI Key: RDOXTESZEPMUJZ-UHFFFAOYSA-N, water solubility: ~ 84 g/L (20 °C); log(Kow); 1.46 (Hansch); Degradation rate biotic/abiotic: 85 % (14 d): The substance is readily biodegradable; Theoretical oxygen demand: 2.38 mg/mg; Theoretical carbon dioxide: 2.806 mg/mg; Biochemical oxygen demand: 1.68 g/g (5 h); Fish: LC₅₀ = 21.93 mg/L (14d), Daphnia: EC₅₀ = 10 mg/L (16d). Anisole was classified as readily biodegradable in an OECD 301C study. It is therefore not considered persistent in water, sediment and soil (ECHA).

12.3 Bioaccumulative potential (BCF)

Indigo: log(BCF): 0.40-0.65 (OECD SIDS), no bioaccumulative potential (ECHA)
n-Octanol/water (log Kow): 2.7 (23 °C, OECD SIDS); 3.72 (TOXNET)
Ethanol: log(BCF): 0.5 (OECD SIDS)
2-Butanone: log(BCF): 0.7 (freshwater fish, OECD SIDS)
2-Propanol: log(BCF): 0 (freshwater fish, OECD SIDS)
Anisole: log(BCF): 2.11 (PubChem)

12.4 Mobility in soil

E-Indigo: Sediments: 0.1-0.3 mg/kg (QSAR, EPI), Anisole: no data available.

12.5 Results of PBT and vPvB assessment

No substance in the mixture meets the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII

Summary:

Indigo has shown no adverse effects in aquatic ecotoxicity studies at the solubility limit or in terrestrial ecotoxicity and toxicity studies up to the highest dose tested and is therefore not toxic to organisms, plants, animals or human (ECHA).

Based on experimental information, anisole is classified as not dangerous for the aquatic environment (ECHA).

12.6 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations. All components are combustible and are suitable in small quantities for residue-free waste incineration.

Sewage disposal-relevant information

Do not empty into drains.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.


13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.


13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

SECTION 14: Transport information

14.1	UN-number	1993 LQ, (Indigo: -, Ethanol: 3343, Anisole: 2222)
14.2	UN proper shipping name	lubricant
	Hazardous ingredients	Ethanol/Anisole
14.3	Transport hazard class(es)	class 3 (flammable liquids)
		
14.4	Packing group	II (medium danger)
14.5	Environmental hazards regulations)	none (non-environmentally hazardous acc. to the dangerous goods
14.6	Special precautions for user	
		Provisions for dangerous goods (ADR) should be complied within the premises.
14.7	Transport in bulk according to Annex II of MARPOL and the IBC Code	
		The cargo is not intended to be carried in bulk.
14.8	Information for each of the UN Model Regulations	

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN)

UN-number	1993
Proper shipping name	lubricant
Particulars in the transport document	UN 1993, flammable, liquid substance, N.A.G., (Ethanol, Anisole), mixture, 3, II, (D/E)
Class	3 (flammable liquids)
Classification code	F1
Packing group	II (medium danger)
Class	3
	
Special provisions (SP)	144, 601
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
Transport category (TC)	2
Tunnel restriction code (TRC)	D/E
Hazard identification No	33
Emergency Action Code	2YE

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

International Maritime Dangerous Goods Code (IMDG)

UN-number	1993
Proper shipping name	lubricant
Particulars in the shipper's declaration	UN 1993, flammable, liquid substance, N.O.S. mixture (Ethanol, Anisole), 3, II, 13°C c.c.
Class	3 (flammable liquids)
Packing group	II (medium danger)
Marine pollutant	-
Danger label(s)	3



Special provisions (SP)	144
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L
EmS	F-E, S-D
Stowage category	A

Dangerous goods packed in excepted quantities: ADR (chapter 3.5), code E2 (3.5.1.2): Maximum net quantity per inner packaging for liquids: 30 ml and maximum net quantity per outer packaging: 500 ml.

14.9 International Civil Aviation Organization (ICAO-IATA/DGR)

UN number	1993
Proper shipping name	lubricant
Particulars in the shipper's declaration	UN 1993, flammable, liquid substance, N.O.S. mixture (Ethanol, Anisole), 3, II, 13°C c.c.
Class	3 (flammable liquids)
Packing group	II (medium danger)
Danger label(s)	3



Special provisions (SP)	A3, A58, A180
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 L

EU directive for hand luggage:

The cargo (> 100 ml) may not be carried by passengers or crew members.

Isantin as a liquid may only be carried in small quantities and in small individual containers of max. 100 ml in hand luggage. All individual containers must be packed in a transparent and resealable plastic bag with a maximum volume of 1 litre. Only one bag per person is permitted, and it must also be sealed. This bag must be presented separately at the security check.

It must be possible to close the bag with a firmly integrated zipper or a pressure seal; an extra clip or rubber is not permitted. A normal freezer bag equipped with such a closure is permitted.



SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Regulation 649/2012/EU concerning the export and import of hazardous chemicals (PIC)

Not listed.

Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS)

Not listed.

Regulation 850/2004/EC on persistent organic pollutants (POP)

Not listed.

Limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products (2004/42/EC, Deco-Paint Directive)

VOC content >50 %

Directive on industrial emissions (VOCs, 2010/75/EU)

VOC content >50 %

EU Regulation No 649/2012 Concerning the Export and Import of Hazardous Chemicals (PIC)

No component is listed.

Verordnung 1005/2009/EG über Stoffe, die zum Abbau der Ozonschicht führen (ODS)

No component is listed.

Regulation 850/2004/EC on persistent organic pollutants (POPs)

No component is listed.

Restrictions under REACH, Annex XVII

No component is listed.

List of substances subject to authorisation (REACH, Annex XIV)

No component is listed.

Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS) - Annex II

No component is listed.

Regulation (EC) No 166/2006 on the establishment of a European Pollutant Release and Transfer Register (E-PRTR)

No component is listed.

Directive 2000/60/EC establishing a framework for Community action in the field of water policy (WFD)

No component is listed.

Quantity thresholds under the Major Accidents Ordinance (StFV), 3rd updated edition, February 2017: 20'000 kg.

Directive 2012/18/EU (Seveso III): Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of:

No	Hazard categories in accordance with Regulation (EC) No 1272/2008	lower-tier requirements	upper-tier requirements
P5c	Flammable liquids, Categories 2 or 3 not covered by P5a and P5b	5'000	50'000

National Regulation (Germany): Verwaltungsvorschrift wassergefährdende Stoffe (VwVwS)

water hazard class (WGK): 1 (slightly hazardous to water)

identification number 818

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

Technical Instructions on Air Quality Control

substance	number	substance group	conc.	mass flow	mass conc.	note
Indigo	D 5.2.1	total dust, including micro dust	100 %	0.2 kg/h	20 mg/m ³	¹⁾
Indigo	A § 3 Abs. 1	dust precipitation		210 mg/(m ² •d)		
Indigo	CH, 41	limit value for total dust		0.2 kg/h	20 mg/m ³	
Ethanol/ 2-Butanone	D, 5.2.5	organic substances	≥ 25 mass.-%	0.5 kg/h	50 mg/m ³	
Ethanol/ 2-Butanone	CH, 71	organic gaseous, vapour or particulate substances		3 kg/h	150 mg/m ³	
2-Propanol	D	organic substances		0.5 kg/h	50 mg/m ³	
Anisole	D, 5.2.5	organic substances	100 %	0.5 kg/h	50 mg/m ³	
Anisole	CH, 124	organic substances			100 mg/m ³	total carbon
solvents, surface cleaning	EU, 1-5 t/a				20 mg/m ³	diffuse max. 15 %, ²⁾

Notes: 1) Even if a mass flow of 0.20 kg/h is maintained or undercut, the mass concentration in waste gas shall not exceed 0.15 g/m³.
2) Council Directive 1999/13/EC of 11 March 1999, Annex IIA, Thresholds and emission limit values, section 4.

• Storage of hazardous substances in transportable containers (TRGS 510) (Germany)

Storage class (LGK): 3 (flammable liquids)

• 29CFR PART 1910.1200 (U.S.A)

Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.

Regulations of the insurance companies

Observe employment restrictions under the Youth Employment Protection Act (94/33/EC). Observe employment restrictions according to the Maternity Protection Directive Ordinance (92/85/EEC) for expectant or nursing mothers. The national legal regulations must also be observed! FOR EXAMPLE: Technical rules for hazardous substances.

National inventories

Substances are listed in the following national inventories (Ethanol: all):

country	national registries	Indigo, status	Anisole, status
AU	AICS	substance is listed	substance is listed
CA	DSL	substance is listed	substance is listed
CN	IECSC	substance is listed	substance is listed
EU	ECSI	207-586-9	202-876-1
EU	REACH Reg.	substance is listed	substance is listed
KR	KECL	substance is listed	substance is listed
MX	INSQ	substance is listed	substance is listed
NZ	NZIoC	-	substance is listed
PH	PICCS	substance is listed	substance is listed
TR	CICR	substance is listed	-
TW	TCSI	substance is listed	substance is listed
US	TSCA	substance is listed	substance is listed

Legend

AICS Australian Inventory of Chemical Substances
CICR Chemical Inventory and Control Regulation
DSL Domestic Substances List (DSL)
ECSI EG Substance list (EINECS, ELINCS, NLP)
IECSC Inventory of Existing Chemical Substances Produced or Imported in China
INSQ National Inventory of Chemical Substances

KECI Korea Existing Chemicals Inventory
NZIoC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances
REACH Reg. REACH registered substances
TCSI Taiwan Chemical Substance Inventory
TSCA Toxic Substance Control Act

15.2 Chemical Safety Assessment

Chemical safety assessments for the substances in this mixture, indigo, ethanol and anisole are completed (ECHA), but not for the mixture.



SECTION 16: Other information

Abbreviations and acronyms

abbreviation	Descriptions of the abbreviations used
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
ADR	Accord européen relatif au transport international des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
AGW	Arbeitsplatzgrenzwert (workplace limit value)
BLV	Biological Limit Value
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
C.I.	Colour Index
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
CMR	Carcinogenic, Mutagenic or toxic for Reproduction
DT ₅₀	dissipation time, half-life for degradation in the environment (e.g. hydrolysis)
DNEL	Derived No Effect Level
EAK	Europäischer Abfall-Katalog: European Waste Catalogue
ECHA	European Chemical Agency
ECOTOX	ECOTOXicology knowledgebase (U.S. EPA)
EC ₅₀	mean effective concentration
ED ₅₀	effect dose 50%
EDLC	Estimated Dose of Low Concern
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EPI	Estimation Programs Interface (U.S. EPA)
ErC ₅₀	average inhibition concentration of the growth rate
GESTIS	GESTIS is the Information system on hazardous substances of the German Social Accident Insurance
GHS	Globally Harmonized System of Classification and Labelling of Chemicals
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
Kow	n-octanol-water partition coefficient
KZW	Kurzzeitwert (Short term value)
LD ₅₀	Letal Dose 50%
LGK	Storage class according to TRGS 510, Germany
LQ	Limited Quantity (ADR)
MAK	Maximale Arbeitsplatz-Konzentration: Maximum workplace concentration
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
MEC	Minimum Explosible Concentration
NLP	No-Longer Polymer
NOEV	No Observed Effect Concentration
NOEL	No observed effect level
OECD SIDS	Organization for Economic Co-operation and Development (OECD) Screening Information Dataset (SIDS)
PBT	Persistent, Bioaccumulative and Toxic
PEC	Predicted Effect Concentration
pKa, pKs	Negative logarithm of acid constant
PNEC	Predicted No Effect Concentration
PubChem	Database (U.S. National Library of Medicine, National Institutes of Health)
QSAR, ecosar	Quantitative Structure Activity Relationship, Software: ecosar (U.S., EPA)
QSAR, EPI	Quantitative Structure Activity Relationship, Software: EPIWIN U.S. EPA)
OSAR, TEST	Quantitative Structure Activity Relationship, Software: T.E.S.T (U.S. EPA)

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

abbreviation	Descriptions of the abbreviations used
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses
SIDS	Screening Information Data Set
SMW	work shift average value (Schichtmittelwert)
TSCA	Toxic Substances Control Act (U.S. EPA)
TOXNET	Toxicology Data Network (U.S. National Library of Medicine)
TRGS	Technical rules for hazardous substances (Germany): Technische Regeln für Gefahr-Stoffe (Deutschland)
TRGS 900	Occupational Exposure Limits (TRGS 900)
UVCB	Substances of Unknown or Variable composition, Complex reaction products or Biological materials
vPvB	very Persistent and very Bioaccumulative
VOC	Volatile Organic Compounds

List of relevant phrases (code and full text as stated in chapter 2 and 3)

Hazard statements (GHS, CLP) (Not necessary if the content < 125 ml [1.5.2 Annex I CLP])

Code	Phrase
H225	Highly flammable liquid and vapour
H226	Flammable liquid and vapour
H315	Causes skin irritation
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary statements (GHS, CLP) (Not necessary if the content < 125 ml [1.5.2 Annex I CLP])

Code	Phrase
P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P233	Keep container tightly closed
P240	Ground/bond container and receiving equipment
P305+P338+P351	IF IN EYES: Remove contact lenses if present and easy to do. Continue rinsing, Rinse cautiously with water for several minutes
P403+P235	Store in a well-ventilated place. Keep cool

Key literature references and sources for data

- ECHA, Guidance on labelling and packaging in accordance with Regulation (EC) No 1272/2008
- EMBL-EBI, ChEMBL, <https://www.ebi.ac.uk/chembl/>
- EU, Scientific Committee on Consumer Safety (SCCS), SCCS/1439/11
- European Chemicals Agency (ECHA), <https://echa.europa.eu/de/information-on-chemicals>
- GESTIS Substance Database, Information system on hazardous substances of the German Social Accident Insurance
- National Institutes of Health (NIH), National Library of Medicine, TOXNET, ChemIDplus
- OECD SIDS, 2-Butanone, OECD SIDS Dossier and SIAR for MEK, Appendix A, Draft
- OECD SIDS, 2-Propanol, SIDS Initial Assessment Profile, UNEP Publications,
- OECD SIDS, Ethanol, SIDS Initial Assessment Report, For SIAM 19, Berlin, Germany, 19 – 22 October 2004
- OECD SIDS, Indigo Blue, SIDS Initial Assessment Report, For SIAM 2, Paris, France, 4-6 July 1994
- Protective Action Criteria (PAC) with AEGs, ERPGs, & TEELs: Rev. 29 for Chemicals of Concern - May 2016, Office of Environment, Health, Safety & Security
- U.S. EPA, Chemicals under the Toxic Substances Control Act (TSCA)
- U.S. National Library of Medicine, National Institutes of Health, Health & Human Services, TOXNET
- U.S. Office of Environment, Health, Safety & Security, (PAC-values)
- Regulation (EC) Nr. 1272/2008 (CLP, EU-GHS)
- Regulation (EC) Nr. 1907/2006 (REACH), updated 2015/830/EU

safety data sheet

according to (EC) Nr. 1907/2006 (REACH), amended by 2015/830/EU



article: **Isantin**

Disclaimer

To the best of our knowledge, the information in this safety data sheet is correct at the time of printing. The information is intended to give you guidelines for the safe handling of the product mentioned in this safety data sheet during storage, processing, transport and disposal. The information is not transferable to other products. Insofar as the product is mixed, blended or processed with other materials, or subjected to processing other than that intended, the information in this Safety Data Sheet cannot be transferred to the new material produced in this way, unless expressly stated otherwise.

¹ ECHA: "As up to 1% aniline can be contained in the Indigo registered, the substance has to be classified for this possible aniline content despite the fact that no adverse effects were noted up to the highest dose levels tested with Indigo containing up to 3% aniline and methylaniline as a sum, or Indigo with aniline and methylaniline each below 1%." The e-indigo used here is micronized, purified, and contains only traces of aniline and methylaniline (< 0.1%) and traces of indirubine, isoindigo (<1%).

GESTIS advice: "Pure indigo has not to be classified. Classification is based on an aniline content of $0.2\% \leq C < 1\%$. This aniline content cannot be avoided due to the synthesis. However, this amount of aniline is encased in the indigo particles and not freely available. They are released from the indigo particles if the indigo powder/granulate is vatted."

² EU class H066 for anisole (repeated exposure may cause skin dryness or cracking) is not a classification and therefore no risk assessment is required.