



Material Safety Data Sheet

According to Regulation No 1907/2006/EC – REACH, No. 2020/878 and No 1272/2008/EC - CLP

Date of revision : 09/20/2022

Version No: 9.0
Replaced version No:8.1

SECTION 1	Identification of the substance/mixture and of the company/undertaking	
1.1	#Product identifier	FOMAtoner INDIGO Díl-Part A
	Other name or labelling of product:	Not specified
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Toner for blue toning of black and white photography	
1.3	Details of the supplier of the safety data sheet	
	Supplier : Downstream User (Producer Mixture)	FOMA BOHEMIA spol. s r.o.(Ltd.) J. Krušinky 1737/6, 500 02 Hradec Králové tel: 495 733 111
	E-mail address and phone number	ilona.spackova@foma.cz +420495733368
1.4	Emergency telephone number	EU Poison Information Centres – see section 16

SECTION 2	Hazards identification	
2.1	Classification of the substance or mixture (according to Regulation No 1272/2008 – CLP) The mixture is not classified as dangerous	
	<u>The most important adverse physicochemical, human health and environmental effects:</u> Upon contact with the eyes can cause moderate irritation.	
	2.2 Label elements (according to Regulation No 1272/2008/EC– CLP)	
	<i>hazard pictogram</i>	not applicable
	<i>signal word</i>	not applicable
	<i>hazard statement(s) (H- , EUH- phrases)</i>	not applicable
	<i>precautionary statement (P- phrases)</i>	not applicable
2.3	Other hazards	
	#The substance does not belong to the category of PBT, vPvB and are not included in the list drawn up in accordance with Article 59 (1) of REACH	

SECTION 3		Composition/information on ingredients			
3.2		#Mixtures			
Folder name	Identification number		Content % mass in the solution	Classification	SCL, M, ATE, note
Tripotassium hexacyanoferrate	CAS number ES number Index number Registration number	13746-66-2 237-323-3 Not available Not available	< 1	Eye Irrit 2;H319 Aquatic Chronic 2; H411	For substance there are Union workplace exposure limits – see to 8.1
Potassium permanganate	CAS number ES number Index number Registration number	7722-64-7 231-760-3 231-760-3 01-2119480139-34-xxxx	< 0,02	Ox.Sol.2;H272 Acute Tox.4;H302 Repr.2;H361d SkinCorr1B;H314 Aquatic Acute1; H400 Aquatic Chronic1; H410	(*M see to section 16) For substance there are Union workplace exposure limits – see to 8.

Solution

(Full text H-phrases... section 16)

SECTION 4		First aid measures
4.1	Description of first aid measures	
	#Prompt medical help is necessary if in eyes	
	After contact with skin: Wash affected area thoroughly with water.	
	Eye Contact: Remove any contact lenses and wash eyes with plenty of water as soon as possible. If necessary, use force to open tightly closed eyelids. Take care not to rinse contaminated water into the non-affected eye. Do not neutralize. Seek medical help.	
	Exposure by inhalation: Remove patient to fresh air, rinse eyes, mouth and nasal cavity with lukewarm water.	
	Ingestion: Calm affected person, rinse his mouth with clean water. Force the affected person to drink a glass of cold water (about 0,4 dl). Do not induce vomiting. If affected person vomit spontaneously, control to prevent inhalation of vomit. Do not administer either activated charcoal or neutralizing agent. Call a physician or transport the affected person to a doctor.	
		#Personal protective equipment for first aid responders: In possible exposition is recommended using of personal protective equipments in accordance with section 8
4.2	Most important symptoms and effects, both acute and delayed	
	Not known	
4.3	Indication of any immediate medical attention and special treatment needed	
	#Specific instruction is not known, symptomatic medical treatment	

SECTION 5		Firefighting measures
5.1	Extinguishing media	

	The product (liquid) is not flammable. Extinguishing agents must be adapted to burning substances in surrounding.
	Inappropriate extinguishing media: N.a.
5.2	Special hazards arising from the substance or mixture
	Not known - non-flammable water solution. Potassium permanganate is an oxidant, due to its volume in the mixture, intensifying effects in case of fire are not expected
5.3	Advice for firefighters
	Breathing apparatus, workwear

SECTION 6	Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures
	#Remove persons not participating in the elimination of the consequences of the accident from its reach. When removing the consequences of the accident, use prescribed personal protective equipment. No smoking and handling of open flames.
6.2	Environmental precautions
	Do not allow substance to enter soil, sewage system, surface and groundwater.
6.3	Methods and material for containment and cleaning up
	Let soak it to inert absorption products. Rinse the affected area thoroughly with water. Small leak strongly dilute with water.
6.4	Reference to other sections
	See sections 8 and 13

SECTION 7	Handling and storage
7.1	Precautions for safe handling
	Follow the safety rules while working. Wear recommended personal protective equipment. Avoid contact with eyes. Eating, drinking, smoking, working with burning materials and open fire is prohibited while working. Equipment must contain fire extinguishers in enclosed areas, ventilation must be ensured naturally or mechanically in enclosed spaces. Workplaces must be kept clean and escape routes must remain free.
7.2	Conditions for safe storage, including any incompatibilities
	Store in original containers in a cool, dry and well ventilated place. Containers should be stored separately from food.
7.3	Specific end use(s)
	See in 1.2. , Other uses – not available

SECTION 8	Exposure controls/personal protection
8.1	Control parameters

International limit values for chemical agents (Occupational exposure limits, OELs):

Potassium permanganate (Manganese and inorganic compounds CAS 7339-96-5 as Mn)				
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m ³	ppm	mg/m ³
Australia		1		
Austria		0,5 inhalable aerosol		2 inhalable aerosol
Belgium		0,2		
Canada - Ontario		0,2		
Canada - Québec		5		
Denmark		0,2		0,4
European Union		0,2 (1) 0,05 (2)		
Finland		0,2 (1) 0,02 (2)		
Germany (AGS)		0,02 (1) 0,2 (2)		0,16 (1)(3)(4) 1,6 (2)(3)(4)
Germany (DFG)		0,02 respirable aerosol 0,2 inhalable aerosol		0,16 respirable aerosol (1)(3) 1,6 inhalable aerosol (2)(3)
Hungary		5		20
Ireland		0,2 (1) 0,2 (3)		3 (1)(2)
Israel		0,02 (1) 0,1 (2)		
Japan		1		
Japan - JSOH		0,2		
Latvia		0,1 (1)		
New Zealand		1		
Poland		0,3		
Singapore		1		
South Korea		1		
Spain		0,2		
Sweden		0,2 total aerosol 0,1 respirable aerosol		
Switzerland		0,5 inhalable aerosol		
USA - NIOSH		1		3 (1)
USA - OSHA				5
United Kingdom		0,5		
	Remarks			
European Union	Bold-type: Indicative Occupational Exposure Limit Values and Limit Values for Occupational Exposure Binding Occupational Exposure Limit Value - BOELV ~ (1) Inhalable fraction (2) Respirable fraction (for references see bibliography)			
Finland	(1) Inhalable fraction (2) Respirable fraction			
Germany (AGS)	(1) Respirable fraction (2) Inhalable fraction (3) 15 minutes average value (4) STV exceeding factor for permanganates: 1			
Germany (DFG)	(1) permanganates: STV 0,02 mg/m ³ , (2) permanganates: STV 0,2 mg/m ³ (3) 15 minutes average value			
Ireland	(1) Manganese fume (2) 15 minutes reference period (3) Manganese and compounds as Mn			
Israel	(1) Respirable fraction (2) Inhalable fraction			
Latvia	(1) Welding aerosol			
USA - NIOSH	(1) 15 minutes average value			
Tripotassium hexacyanoferrate (Potassium ferricyanide)				
	Limit value - Eight hours		Limit value - Short term	
	ppm	mg/m ³	ppm	mg/m ³
Latvia		4		

Laying down limit values of biological exposure tests: not available

	Potassium permanganate* DNELs	
	Workers	Consumers
Route of exposure	Chronic effects systemic	Chronic effects systemic
Oral	Not available	11.11 µg/kg bw/day
Inhalation	218 µg/m ³	38.9 µg/m ³
PNECs		
Environmental protection target	PNEC	
Fresh water	60 ng/L	
Fresh water - Intermittent release	600 ng/L	
Microorganisms in sewage treatment	1.64 mg/L	
Tripotassium hexacyanoferrate* DNELs		
	Workers	Consumers
Route of exposure	Chronic effects systemic	Chronic effects systemic
Dermal	9 mg/kg bw/day	4.5 mg/kg bw/day
Oral	Not available	4.5 mg/kg bw/day
PNECs		
Environmental protection target	PNEC	
Fresh water	59 µg/L	
Marine water	5.9 µg/L	
Microorganisms in sewage treatment	100 mg/L	
*source : substance Brief Profile: http://echa.europa.eu/		
8.2	Exposure controls Individual protection measures, incl. protective equipment Technical measures: Working place must be equipped with a local suction and a source of running water if the eyes irrigation and washing of hands or affected parts of skin is needed. Tightly closed containers and equipment, natural and mechanical ventilation. Avoid contact with eyes and mouth, avoid inhalation and skin staining. Eating, drinking and smoking is prohibited while working. Avoid contact with food substances and drinks. After work wash hands with soap and water. Take off polluted clothes if needed. Respiratory protection: During normal handling is not required. #Hand protection: The use of work gloves (EN 374 and EN 420) is recommended, e.g. KCL740/741 Dermatril -nitrile. Rubber, thickness 0.11 mm, penetration time >480min, KCL lapren 706 - natural rubber, thickness 0.6mm, penetration time >480min #Eye protection: Safety glasses/ safety shield (EN166)- recommended Skin protection: Workwear, recommended long- sleeved protective work clothing Environmental exposure: Secure the spaces against the leakage into watercourses, soil and sewage system.	

SECTION 9	Physical and chemical properties	
9.1	#Information on basic physical and chemical properties	
	Appearance	Yellow-orange liquid
	Odour	Nonspecific
	pH (20 °C)	7.6
	Melting point/freezing point	< 0 °C
	Initial boiling point and boiling range	> 100 °C
	Flash point	Non-flammable - aqueous solution; Potassium permanganate > 240°C
	Flammability	Inflammable

	Upper/lower flammability or explosive limits	Irrelevant- non-flammable liquid
	Vapour pressure	<20 mbar
	Relative vapour density	Information is not available
	Oxidising properties	No
	Absolute density	1.01 g/cm ³
	Solubility – water	Water solution- full blended
	Partition coefficient: n-octanol/water	Irrelevant
	Auto-ignition temperature	Water solution- no self -ignition
	Decomposition temperature	Not determined for the mixture (potassium ferricyanide 400 °C)
	Kinematic viscosity	Information is not available
	Explosive properties	No explosive properties
	#Particle characteristics:	Irrelevant
9.2	Other information	
	Oxidising properties	Not determined for the mixture, the contained substance potassium permanganate has oxidizing properties. Due to its volume in the mixture, the oxidizing properties of the mixture are not expected

SECTION 10	Stability and reactivity
10.1	Reactivity #There is no risk of reactivity under normal conditions. (the contained substance potassium ferricyanide reacts with acidic substances to form hydrogen cyanide)
10.2	Chemical stability Under normal conditions the product is stable
10.3	Possibility of hazardous reactions #Unknown for the product (the contained substance potassium ferricyanide reacts with acidic substances to form hydrogen cyanide)
10.4	Conditions to avoid #There are no known conditions under which dangerous reactions could occur. Protect from direct long-term exposure to heat and sunlight - the product may deteriorate
10.5	Incompatible materials #Strong oxidizing agents, acids, ammonia
10.6	Hazardous Decomposition Products #When reacting with acids, hydrogen cyanide can be formed

SECTION 11	Toxicological information
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11.1	#Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity	Based on available data, the criteria for this classification are not match up Direct toxic effects are not expected under normal use Potassium permanganate LD50/oral/rat: 1090 mg/kg bw *LD50/dermal/rabbit: 2000 mg/kg bw *source : substance Brief Profile: http://echa.europa.eu/ Tripotassium hexacyanoferrate LD50/oral/rat: 2970 mg/kg bw
Skin corrosion/irritation	Based on available data, the criteria for this classification are not match up
Serious eye damage/eye irritation	Based on available data, the criteria for this classification are not match up
Respiratory sensitisation/ skin sensitisation	Based on available data, the criteria for this classification are not match up The substance has no sensitizing effects
Germ cell mutagenicity	Based on available data, the criteria for this classification are not match up The substance has no mutagenic effects
Carcinogenicity	Based on available data, the criteria for this classification are not match up The substance has no carcinogenic effects
Reproductive toxicity	Based on available data, the criteria for this classification are not match up
Specific target organ toxicity — single exposure	Based on available data, the criteria for this classification are not match up There isn't precondition for organ toxicity through single exposure
Specific target organ toxicity — repeated exposure	Based on available data, the criteria for this classification are not match up There isn't precondition for organ toxicity through repeated exposure
Aspiration hazard	Based on available data, the criteria for this classification are not match up Aspiration hazard are not expected under normal conditions use of product
<u>Likely routes of exposure and symptoms related to the physical, chemical and toxicological characteristics:</u>	
#Harmfull effect for health aren't expected under normal using and observing the hygienic regulations	
Toxicity oral. (ingestion / swallowing): Ingestion may cause moderate irritation or burns to the digestive tract.	
Toxicity inhal. (inhalation): #Harmfull effect for health aren't expected under normal using.	
Toxicity dermal. #Harmfull effect for health aren't expected under normal using.	
Eye Contact: #Causes serious eye irritation in case of contact with eyes.	
Immediate, delayed and chronic effects of short and long term exposure: Data not available	
11.2.	Information on other hazards
	Not specified

SECTION 12	Ecological information
12.1	<p>Toxicity</p> <p>#Not determined for mixture. Due to the composition, there is no assumption of adverse effects on the environment during normal use</p> <p>Potassium permanganate* LC50/ freshwater fish/ 96 hr: 0.47 mg/L EC50/LC50/ freshwater invertebrates/48 hr: 0.06mg/L EC50/ freshwater algae/72 hr: 0.43 mg/l EC50/microorganisms/3hr. :164 mg/L</p> <p>Tripotassium hexacyanoferrate* LC50/ freshwater fish/96 hr: 100 mg/L EC50/LC50/ freshwater invertebrates/ 48 hr: 59mg/L EC50/ freshwater algae/72 hr: 3.1 mg/L EC/NOEC/ freshwater algae/72 hr: 0.05 mg/L EC50/microorganisms/3hr. :1 mg/L</p> <p>*source : substance Brief Profile: http://echa.europa.eu/</p>
12.2	<p>Persistence and degradability</p> <p>Inorganic substance. Irrelevant.</p>
12.3	<p>Bioaccumulative potential</p> <p>#Information for mixture isn't available. Substances haven't bioaccumulative potential -bioaccumulative potential is not expected</p>
12.4	<p>Mobility in soil</p> <p>#Information for mixture isn't available. The product is soluble in water</p>
12.5	<p>Results of PBT and vPvB assessment</p> <p>Information for mixture isn't available. Substances are not identified as a PBT or vPvB</p>
12.6.	<p>#Endocrine disrupting properties</p> <p>The mixture doesn't contain endocrine disrupting substances</p>
12.7	<p>Other adverse effects</p> <p>Not known</p>

SECTION 13	Disposal considerations				
13.1	<p>Waste treatment methods</p> <table border="1"> <tr> <td>Code and type of waste</td> <td>09 01 01* – aqueous developer solutions 20 01 17* - Photo chemicals 15 01 10 * - packaging containing residues of hazardous substances</td> </tr> <tr> <td>The recommended method of disposal of the substance/ preparation:</td> <td>Spilled product let absorb in inert absorbent material and pass it on to a person who is in charge of its removal. The product cannot be removed together with local or other waste. Do not wash away into sewers.</td> </tr> </table>	Code and type of waste	09 01 01* – aqueous developer solutions 20 01 17* - Photo chemicals 15 01 10 * - packaging containing residues of hazardous substances	The recommended method of disposal of the substance/ preparation:	Spilled product let absorb in inert absorbent material and pass it on to a person who is in charge of its removal. The product cannot be removed together with local or other waste. Do not wash away into sewers.
Code and type of waste	09 01 01* – aqueous developer solutions 20 01 17* - Photo chemicals 15 01 10 * - packaging containing residues of hazardous substances				
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# Physical / chemical properties that may affect waste management	Labeling according to Annex III of Directive 2008/98/EC: Due to the classification of the substances contained HP4 - "Irritating - irritating to skin and eyes"
The recommended method of disposal of contaminated product packaging:	Emptied containers (after thorough flushing) can be reused, or put away into a container, designated for separate collection (plastics).
Waste legislation	Directive No. 2008/98/ES

SECTION 14	Transport information
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Land transport (road / rail) ADR/RID , Maritime transport IMDG, Air transport ICAO-TI and IATA-DGR:

For the transport of the product **is not** classified as a dangerous thing (goods).

14.1	#UN number or ID number	Not applicable
14.2	UN proper shipping name	Not applicable
14.3	Transport hazard class(es)	Not applicable
14.4	Packing group	Not applicable
	Labels	
14.5	Environmental hazard	Not
	Marine pollutant	Not
14.6	Special precautions for user	See to section 8
14.7	#Maritime transport in bulk according to IMO instruments	Not applicable

SECTION 15	Regulatory information
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture Regulation (EC) No 1907/2006, registration, evaluation, authorisation, restriction chemicals (REACH) #Regulation (EC) No 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures Government Regulation No. 361/2007 Coll. On the health conditions of workers at work European Agreement concerning the international carriage of dangerous goods (ADR) International Maritime Dangerous Goods Code (IMDG Code) IATA Dangerous Goods Regulations (DGR)
	15.2

SECTION 16	Other information
#Abbreviations, symbols	
Acute Tox.4	Acute toxicity (Category 4)
Skin Corr. 1B	Skin caustic (Cat. 1B)

Ox.Sol.2	Oxidising Solid (Category 2)
Aquatic Acute 1	Hazardous to the aquatic environment, acute (Category 1)
Aquatic Chronic 1	Hazardous to the aquatic environment (Category 1)
Aquatic Chronic 2	Hazardous to the aquatic environment (Category 2)
Repr.2	Reproductive toxicity (Category 2)
Eye Irrit 2	Serious eye irritation (Category 2)
<p>CLP : Regulation (EC) č.1272/2008 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals SVHC: Substance of very high concerns PBT: Persistent, bioaccumulative and toxic vPvB :(very) Persistent, (very) Bioaccumulative RID: Regulations Concerning the International Transport of Dangerous Goods by Rail ICAO: International Civil Aviation Organisation ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association EINECS: European Inventory of Existing Commercial Chemical Substances CAS: Chemical Abstracts Service (division of the American Chemical Society) DNEL: Derived No-Effect Level PNEC: Predicted No-Effect Concentration LC50: Lethal concentration, 50 percent LD50: Lethal dose, 50 percent EC50: Median Effective LOAEL: Lowest observed adverse effect level NOAEL: No Observed Adverse Effect Level NOEC: No Observed Effect Concentration M: multiplier factor N.a.: not available bw: body weight #ATE: Acute Toxicity Estimate #SCL: Specific Concentration Limit</p>	

Materials used for the processing of safety data sheet	
Information provided by the producer- Material Safety Data Sheets (MSDS) for chemical substances , GESTIS database (www.gdudv.de), European Chemicals Agency http://echa.europa.eu/	
Classification (according to Regulation No 1272/2008 – CLP): calculation method * M acute=10 and M chronic=10 were used for the calculation according to available data from the registration documentation for potassium permanganate (for data on LC50/EC50 see section 12.1)	
#H-phrases :	
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H314	Causes severe skin burns and eye damage
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H400	Very toxic to aquatic life.
H361d	Suspected of damaging the unborn child
H319	Causes serious eye irritation

Guidance regarding the training of workers:

Workers coming into contact with hazardous chemicals or products must have access to data which are presented in this MSDS and be familiar with them clearly.

Person transporting hazardous chemicals and preparations must be familiar with guidelines for emergency response in accordance with regulations on hazardous goods within the meaning of ADR / RID.

The information contained in this MSDS are currently valid data and best practices for use and handling of this substance under normal conditions. Any other use or handling of this mixture which is not consistent with those of MSDS excludes the responsibility for defects, more precisely for damage for which the producer, importer or retailer would be otherwise responsible.

EU Poison Information Centres

Country	Poison Centre	Tel number 24hour every day/ other time
Austria	Poison Information Center/Vergiftungsinformationszentrale	+ 43 1 406 43 43
Belgium	Cente Antipoisons-Antigifcentrum center	+32 70 245 245
Bulgaria	National Toxicology Information center- Hospital for Active Medical Treatment and Emergency Medicine 'N.I.Pirigov', Sofia	+359 2 9154 409
Croatia	Poison Information Center/ Centar za kontrolu otrovanja	+385 1 2348 342
Denmark	Poison Center Hotline	+45 82 12 12 12
Estonia	Poisoning centre Hotline Mürgistusinfo	+372 16662
Finland	Poison Information Centre	+358 9 471977
France	Centre Antipoison et de Toxicovigilance de Paris	+33 1 40 05 48 48
Germany	Poison Information Centre in Berlin	+49 30 192 40
Greece	Poison Information Centre	+30 2107793777
Iceland	Poisons Information Center (Eitrunarmiðstöð)	+354 543 2222
Ireland	National Poisons Information Centre	+353 1 809 2566
Hungary	Poison Information Service (National Institute for chemical safety) Információszoigálatás akut mérgezés eseeén)	+36 80 201 199
Italy	Poisons Center CAV-Centro Antiveneni Roma	+39 06 68593726, +39 06 3054343, +39 06 49978000
Latvia	Toksikoloģijas un sepses klīnikas Saindēšanās un zāļu informācijas centrs	+371 67042473
Lithuania	Poison Information Bureau -PIB	+370 8-5 236 20 52
Luxembourg	Belgian Poison Center	+352 8002 5500
Netherlands	National Poisons Information Center (nationaal vergiftigen Informatie centrum,NVIC)	+031 (0) 30 274 8888
Norway	Poison center (Giftinformasjon)	+47 22 59 13 00
Poland	National Poisons Information Centre Lodz	+48 42 63 14 724
Portugal	Centro de Informação Antivenenos	+351 808 250 143
Romania	National Institute for Public Health (Centrum National de Informare Toxicologica)	+40 21 318 36 06
Slovakia	National Toxicological Information Centre (Národné toxikologické informačné centrum)	+421 2 54 774 166
Spain	Toxicological Information Service (Servicio de Información toxicologica)	+34 91 562 04 20
Sweden	Giftinformationscentralen (Swedish poisons Information Centre)	112/ mon-fri 9.00-17.00 +46 10 456 6700
Switzerland	The Swiss Toxicological Information Centre (STIC)	145
United Kingdom	National Poisons Information Service -NPIS(Birmingham)	England, Wales, Scotland 111
Turkey	Toxicolog Department and Poisons Centre	+ 90 0312 433 7001,+90 0800 314 7900

Revised safety data sheet:

version 9.0 – change in the format of the safety data sheet according to Commission Regulation (EU) No. 2020/878 and overall revision of the text and data. Change in the classification of the substance potassium ferricyanide.

Changes in the text marked with the symbol: #