Material Safety Data Sheet

According to Regulation No 1907/2006/EC – REACH, No. 453/2010 and No 1272/2008/EC - CLP

Version No: 7.1

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SECTION 1	Identification of the substance/mixture and of the company/undertaking	
1.1	Product identifier	**FOMADUX LP-D, part B**
	Other name or labeling of product:	
1.2	Relevant identified uses of the substance or mixture and uses advised against	
	Concentrate of developer for processing of RTG films	
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 (Czech)	Toxicologic institute (TIS) Na Bojišti 1, 128 21 Praha 2 Tel. 224919293, 224915402 (continuous telephone information service)

SECTION 2	Hazards identification
2.1	**Classification (according to Regulation No 1272/2008 – CLP)**
	Acute Tox.4;H302 SkinCorr.1B;H314 Aquatic Chronic3;H412
	Classification (according to Directive No 1999/45/ES – (DPD)
	Xn;R22 C;R34 N;R52/53
	<u>The most important adverse physicochemical, human health and environmental effects:</u> Harmful if swallowed.Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.

2.2	Label elements (according to Regulation No 1272/2008/EC– CLP)	
Identification of product		**FOMADUX LP-D, part B**
hazard pictogram		
signal word		Danger
hazard statement(s) (H-, phrases)	H302 H314 H412	Harmful if swallowed. Causes severe skin burns and eye damage. Harmful to aquatic life with long lasting effects.
precautionary statement (P- phrases)	P280 P305+P351+P338 P302+ P352 P301+P312 P273	Wear protective sloves/protective clothing/eye protection/face protection. IF IN EYES: Rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. IF ON SKIN: Wash with plenty of water/soap. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Avoid release to the environment.
		Contain: acetic acid, fenidone, diethylenglycole
		FOMA BOHEMIA spol. s r.o., J. Krušinky 1737/6, 500 02 Hradec Králové tel: 495 733 111

2.3	Other hazards
	The substance does not belong to the category of PBT, vPvB, SVHC

SECTION 3	Composition/information on ingredients
3.2	Mixtures

Folder name	Registration number	Index number	CAS number	ES number	Content % in the solution	Classification	
Acetic acid	01-2119475328-30	607-002-00-6	64-19-7	200-580-7	< 50	Flam Liq.3;H226 SkinCorr.1A;H314	R10 C;R35
Diethyleneglycole	01-2119457857-21	603-140-00-6	111-46-6	203-872-2	< 20	AcuteTox.4;H302	Xn;R22
Fenidon A (1-phenyl-3-pyrazolidone	not available	606-022-00-2	92-43-3	202-155-1	< 10	AcuteTox.4;H302 AquaticChronic2;H411	Xn;R22 N;R51/53
5-nitroindazole	not available	not available	5401-94-5	226-451-5	< 1	Acute Tox.4;H302 Eye Irrit.2;H319 Skin Irit;H315	Xn;R22 Xi;36/38

Solution

(Full text R, H-phrases… section 16)

SECTION 4	First aid measures
4.1	Description of first aid measures
	Disabled person to lead from the contaminated area, bringing it into a state of peace and to facilitate breathing by loosening clothing, watch, and if necessary to maintain its vital functions. If you are experiencing symptoms of acute injury (shortness of breath, persistent cough, chest pain, nausea, impaired sensory perception, fainting, etc.), call a physician or transport the injured person to a doctor.
	After contact with skin: Wash affected area thoroughly with water.
	Eye Contact: Remove any contact lenses and eye as soon as possible wash with plenty water. If necessary, open up violence cramped eyelids. Avoid contamination not contaminated eye wash liquid.. Do not neutralize. Seek medical help.
	Exposure by inhalation: Remove patient to fresh air, lukewarm water rinse eyes, mouth and nasal cavity.
	Ingestion: Affected person calm, clear water rinse. Place to drink a glass (about 0.4 dl) of cold water. Do not induce vomiting. If affected persone vomit spontaneously, control to prevent inhalation of vomit. Do not administer activated charcoal, and no neutralizing agent. Call a physician or transport the affected person to a doctor.
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
	In the workplace, running water and soap.

SECTION 5	Firefighting measures
5.1	Extinguishing media
	Suitable extinguishing media: Water, foam, dry powder, CO2
	Inappropriate extinguishing media: N.a.
5.2	Special hazards arising from the substance or mixture
	Maybe it emits toxic gases
5.3	Advice for firefighters: Breathing apparatus

SECTION 6	Accidental release measures
6.1	Personal precautions, protective equipment and emergency procedures
	Zoom out persons not participating in the elimination of consequences of the accident out of reach. Ventilate enclosed spaces. When removing the consequences of the accident using the prescribed personal protective equipment. When working on the disposal of the accident contained breathing apparatus and full protective suit. No smoking and treatment with an open fire.
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 at least strongly dilute with water.

6.4	Reference to other sections
	See section 13

SECTION 7	Handling and storage
7.1	Precautions for safe handling
	While working to comply with basic requirements of safe work. Wear recommended personal protective equipment. Avoid contact with eyes. By manipulation prohibits eating, drinking and smoking, working with hot materials and open flame. Equipment must be equipped with means of extinguishing in enclosed areas, ventilation should be provided, either naturally or forced. 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
	Government Regulation No 361/2007 Coll. - Conditions for health workers at work and occupational exposure limits in the air of workplaces and ways of measuring and evaluating. (Czech) Acetic acid: PEL 25 mg/m^3 NPK-P 35 mg/m^3 Substance is not listed in Notice. No.432/2003 Coll., Laying down limit values of biological exposure tests: not available
	DNEL : (acetic acid) Workers General Long-Term – inhal., local effect 25 mg/m^3 25 mg/m^3 Short-Term – inhal., local. effect 25 mg/m^3
	PNEC : (acetic acid) Freshwater 3 mg/l Seawater 0.3 mg/l Soil 0.47 ug/kg sediment dw Mikroorganisms in Sewasge Treatment Plant 85 mg/l
	DNEL : (diethyleneglycole) Workers General Long-Term – dermal., systemic effect 106 mg/kg bw/day 53 mg/kg bw/day Long-Term – dermal., local. effect 60 mg/m^3 Long-Term – inhal., local effect 12 mg/m^3
	PNEC : (diethyleneglycole) Freshwater 10 mg/l Seawater 1 mg/l Soil 1.53 mg/kg sediment dw Mikroorganisms in Sewasge Treatment Plant 200 mg/l
8.2	Exposure controls

	Individual protection measures, incl. protective equipment
	Technical measures: Working with a local source of suction and running water for the irrigation needs of the eyes, wash your hands or contaminated parts of the skin. Tightly closed containers and equipment, natural and mechanical ventilation. Do not allow product to the eyes, mouth, inhalation, skin contact. Do not eat, drink or smoke. Avoid contact with food substances and drinks. After work wash hands with soap and water. Alternatively, take off contaminated clothing.
	Respiratory protection: During normal handling is not required. Recommended that any use of a respirator.
	Hand protection: Use rubber (PE, nitril) gloves
	Eye protection: Safety glasses
	Skin protection: Workwear
	Environmental exposure: Provide preventing spill into waterways, soil and drainage.

SECTION 9	Physical and chemical properties	
9.1	Information on basic physical and chemical properties	
	Appearance	Yellow liquid
	Odour	acetic
	pH (20 ^{o}C)	cca 1.7-2.3
	Melting point/freezing point	cca 0 ^{o}C
	Initial boiling point and boiling range	cca 100 ^{o}C
	Flash point	138^{o}C (diethylenglycole)
	Evaporation rate	Flamable
	Flammability	Incombustible
	Upper/lower flammability or explosive limits	Irrelevant
	Vapour pressure	Unknown
	Vapour density	Unknown
	Oxidising properties	No
	Relative density	1.08 g/cm3
	Solubility – watter	Solution
	Partition coefficient: n-octanol/water	Unknown
	Auto-ignition temperature	Irrelevant
	Decomposition temperature	N.a.
	Viscosity;	N.a.
	Explosive properties	No
9.2	Other information	
	Fat solubility	N.a.
	Conductivity	N.a.

SECTION 10	Stability and reactivity
10.1	Reactivity
	Under normal conditions the product is stable
10.2	Chemical stability
	Under normal conditions the product is stable
10.3	Possibility of hazardous reactions
	Reactions with metals, the possibility of hydrogen
10.4	Conditions to avoid
	High temperature
10.5	Incompatible materials
	Iron, light metals, strong bases
10.6	Hazardous Decomposition Products
	N.a.

SECTION 11	Toxicological informations
11.1	Information on toxicological effects

Acute toxicity	Harmful if swallowed
Skin corrosion/irritation	Causes skin corrosion
Serious eye damage/eye irritation	Causes serious eye damage
Respiratory or skin sensitisation	Based on available data, the criteria for this classification are not match up
Germ cell mutagenicity	Based on available data, the criteria for this classification are not match up
Carcinogenicity	Based on available data, the criteria for this classification are not match up
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
Specific target organ toxicity — repeated exposure	Based on available data, the criteria for this classification are not match up
Aspiration hazard	Based on available data, the criteria for this classification are not match up

LD_{50} oral rat: 3310 mg/kg (acetic acid)

LD_{50} derm., rabbit : 1060 mg/kg (acetic acid))

LD_{50} oral rat: 475 mg/kg (1-phenyl-3-pyrazolidone)

LC_{50} fish, 24 hour > 5000 mg/l (diethyleneglycole)

<u>Likely routes of exposure and symptoms related to the physical, chemical and toxicological characteristics:</u>

Toxicity oral. (ingestion / swallowing):

diethyleneglycole: harmful. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea

Toxicity inhal. (inhalation):

Diethyleneglycole: Inhalation of vapors may cause irritation of the upper respiratory tract.
Toxicity dermal. May cause skin corrosion
Eye Contact: Causes serious eye damage.
Immediate, delayed and chronic effects of short and long term exposure: Harmful to aquatic life with long lasting effects.

SECTION 12	Ecological information
12.1	Toxicity
	Low toxicity to the environment
12.2	Persistence and degradability
	Acetic acid: well biodegradable *Diethylenglycole*: well biodegradable F*enidon A*: poorly biodegradable
12.3	Bioaccumulative potential
	It is not expected
12.4	Mobility in soil
	N.a., the product is soluble in water
12.5	Results of PBT and vPvB assessment
	Not available. Substances are not identified as a PBT or vPvB
12.6	Other adverse effects
	N.a.

SECTION 13	Disposal considerations	
13.1	Waste treatment methods	
	Code and type of waste	09 01 01* – aqueous developer solutions 15 01 10 * - packaging containing residues of hazardous substances
	The recommended method of disposal of the substance/ preparation:	Spilled product let soak up with inert absorbent material and pass the person authorized to remove. Must not be disposed of with household or other waste. Do not wash into sewers.
	The recommended method of disposal of contaminated product packaging:	Emptied containers (after thorough flushing) can be reused, or to defer to container, designated for separate collection (plastics).
	Waste legislation	Directive No. 2008/98/ES

SECTION 14	Transport information

Land transport ADR/RID (cross- border):

UN number	2790
UN proper shipping name	ACETIC ACID SOLUTION,more than 10% and less than 50% by mass
Transport hazard class(es)	8
Packing group	III
Labels	8 
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Tunel restriction: E
Remarks:	The product is packed in limited quantities according to chapter 3.4 ADR , it means in combination packaging with not more than 5 liter per inner packaging and not more than 30 kg per package Marking for packages containing limited guantities- according to chapter 3.4.7

Maritime transport IMDG:

UN number	2790
UN proper shipping name	ACETIC ACID SOLUTION,more than 10% and less than 50% by mass
IMDG class(es)	8
Packing group	III
EMS number	F-A, S-B
Segregation	Category A
Marine pollutant	Not
Labels	8 
Remarks:	The product is packed in limited quantities according to chapter 3.4 IMDG, it means in combination packaging with not more than 5 liter per inner packaging and not more 30 kg per package Marking for packages containing limited guantities according to chapter 3.4.5

Air transport ICAO-TI and IATA-DGR:

UN number	2790
UN proper shipping name	ACETIC ACID SOLUTION,more than 10% and less than 50% by mass
ICAO/IATA class(es)	8
Packing group	III
Labels	8 
Packing instructions	Passenger aircraft – Packing instruction 852, max. net quantity per package 5L

	Cargo aircraft - Packing instruction 856 max. net quantity per package 60 L Packing instruction Y841–for packaging in limited quantities
Remarks	The product is packed in limited quantities according to chapter 2.7 of Technical Instructions for the Safe Transport of Dangerous Goods by Air, it means in combination packaging with not more than 1 liter per inner packaging and not more 30 kg per package Marking for packages containing limited guantities according to chapter 2.7.0.2

Environmental hazards	not
Special precautions for user	Warning: Corrosive mixture

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, autorisation, restriction chemicals (REACH) Regulation (EC) No 453/2010 Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures Direction No 67/548/EHS (DSD), 1999/45/ES (DPD) Act No. 350/2011 Coll. On chemical substances and mixtures Decree No. 381/2001 Coll. Establishing the Waste Catalogue. Government Regulation No. 361/2007 Coll. On the health conditions of workers at work European Agreement concerning the international carriage of dangerous goods (ADR) applicable as from 1. January 2015 IMDG Code,MSC 93/22/Add.2 IATA Dangerous Goods Regulations, 56th Edition
15.2	Chemical safety assessment
	The chemical safety assessment for the product was´n made.

SECTION 16	
Abbreviations, symbols	
Flam Liq.3	Flammable liquid
AcuteTox.4	Acute Toxicity
Skin Corr.1A,1B	Skin Corrosion (Category 1A, 1B)
Skin Irrit.2	Skin Irritation
Eye Irrit.2	Serious eye irritation
AquaticChronic 2,3	Hazardous to the aquatic environment, chronic
C	caustic

Xn	harmfull
Xi	irritation
N	hazardous to the aquatic environment
CLP	Regulation (ES) č.1272/2008
DPD	Direction (ES) 1999/45/ES
PBT	Persistent, bioaccumulation, toxic

Materials used for the processing of safety data sheet	
Information provided by the producter Material Safety Data Sheets (MSDS) for chemical substances	
R, H-phrases **:**	
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation
H412	Harmful to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
R10	Flammable
R22	Harmful if swallowed
R35	Cause severe burns
R34	Causes burns
R36/38	Irritating to eyes and skin
R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
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 substance, which is not consistent with those of MSDS, excludes liability for defects, respectively damage, which would otherwise meet the producter, importer or retailer.	
Revised safety data sheet:	
version 7.1 – changes in section 1.3 and 2.2– address of supplier, 14- changed information for maritine and air transport	