

Material safety data sheet

Processed according to regulation (ES) No 1272/2008

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

1.1 Product identifier

INK V410-D

Registration number: V410-D

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

Ink for use in a continuous ink jet process.

1.3 Details of the supplier of the safety data sheet

Name or business name : AG-FOIL Bohemia s.r.o.
Place of business: Bratislavská 3082, 690 02 Břeclav, Česká republika
Identification number: 26955261
Phone: +420 519 331 155
Information for the products: + 420 519 323 815 or www.agfoil.cz
Information for the safety data sheet: Vladimír Holomek: v.holomek@agfoil.cz, +420 519 331 155

1.4 Emergency telephone number

Toxikologické informační středisko, CZ: Na Bojišti 1, 128 08 Praha 2, CZ: (24/7) 224 919 293, 224 915 402, 224 914 575

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Flam. Liq. 2,	H225 Highly flammable liquid and vapor.
Eye Irrit. 2A,	H319 Causes serious eye irritation.
STOT SE 3,	H336 (Narcotic effects) May cause drowsiness and dizziness.

2.2. Label elements



Danger. Highly flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness and dizziness. Harmful to aquatic life with long lasting effects. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hazardous ingredients: butanone

2.3. Other hazards

None.

Avoid breathing vapor. Wear eye or face protection. Avoid release to the environment. IF INHALED: Call a POISON CENTER or physician if you feel unwell. If eye irritation persists: Get medical attention. Keep container tightly closed. Store in a well-ventilated place.

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SECTION 3: Composition/information on ingredients

3.2. Mixtures

Product/ingredient name	CAS #	%	GHS Classification
1) butanone	78-93-3	50 - <60	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
2) C.I. Solvent Black 29	117527-94-3	5 - <10	Not classified
3) ethanol	64-17-5	5 - <10	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
4) [3-(2,3-epoxypropoxy)propyl] trimethoxysilane	2530-83-8	1 - <3	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1
5) ethyl acetate	141-78-6	1 - <3	FLAMMABLE LIQUIDS - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
6) Isopropyl alcohol	67-63-0	1 - <3	FLAMMABLE LIQUIDS - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

SECTION 4: First aid measures

4.1. Description of first aid measures

Eye contact: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact: Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion: Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

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

Eye contact : Causes serious eye irritation.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact : No known significant effects or critical hazards.

Ingestion: Can cause central nervous system (CNS) depression. Irritating to mouth, throat and stomach.

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4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Use dry chemical, CO₂, water spray (fog) or foam. Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

5.3. Advice for firefighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

6.2. Environmental precautions

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

6.3. Methods and material for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

6.4. Reference to other sections

See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Take precautionary measures against electrostatic discharges. Do not reuse container.

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7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3. Specific end use(s)

Data not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Product/ingredient name

Exposure limit values

1) butanone

OSHA PEL 1989 (United States, 3/1989).
TWA: 200 ppm 8 hours.
TWA: 590 mg/m³ 8 hours.
STEL: 300 ppm 15 minutes.
STEL: 885 mg/m³ 15 minutes.
OSHA PEL (United States, 2/2013).
TWA: 200 ppm 8 hours.
TWA: 590 mg/m³ 8 hours.

2) C.I. Solvent Black 29

OSHA PEL 1989 (United States, 3/1989).
TWA: 0.5 mg/m³, (as Cr) 8 hours.
OSHA PEL (United States, 2/2013).
TWA: 0.5 mg/m³, (as Cr) 8 hours

3) ethanol

OSHA PEL 1989 (United States, 3/1989).
TWA: 1000 ppm 8 hours.
TWA: 1900 mg/m³ 8 hours.
OSHA PEL (United States, 2/2013).
TWA: 1000 ppm 8 hours.
TWA: 1900 mg/m³ 8 hours.

4) ethyl acetate

OSHA PEL 1989 (United States, 3/1989).
TWA: 400 ppm 8 hours.
TWA: 1400 mg/m³ 8 hours.
OSHA PEL (United States, 2/2013).
TWA: 400 ppm 8 hours.
TWA: 1400 mg/m³ 8 hours.

5) Isopropyl alcohol

OSHA PEL 1989 (United States, 3/1989).
TWA: 400 ppm 8 hours.
TWA: 980 mg/m³ 8 hours.
STEL: 500 ppm 15 minutes.
STEL: 1225 mg/m³ 15 minutes.
OSHA PEL (United States, 2/2013).
TWA: 400 ppm 8 hours.
TWA: 980 mg/m³ 8 hours.

8.2. Exposure controls

Appropriate engineering controls: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Hygiene measures: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially conta-

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minated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state: Liquid.

Color: Black.

Odor: Not available.

Odor threshold: Highest known value: 100 ppm. Weighted average: 13 ppm.

pH: Not applicable

Melting point/freezing point: May start to solidify at the following temperature: -83 °C. Weighted average: -87 °C.

Initial boiling point and boiling range: 77 °C.

Flash point: -9 °C.

Evaporation rate (butyl acetate = 1) : Highest known value: 7.1. Weighted average: 6.7.

Flammability (solid, gas) : Not applicable. (Liquid)

Upper/lower flammability or explosive limits: Lowest known value: 4%. Highest known value: 19.0%.

Vapor pressure: Highest known value: 81 mm Hg at 20°C. Weighted average: 75 mm Hg at 20°C.

Vapor density: >1.6 (Air = 1)

Relative density (Water = 1): 0.9

Solubility(ies): Not available.

Partition coefficient: noctanol/ water: Not available.

Auto-ignition temperature: Lowest known value: 250 °C. Weighted average: 390 °C.

Decomposition temperature: Thermally stable.

Viscosity: Not available.

Explosive properties: Not applicable. Not classified.

Oxidizing properties: Not applicable. Not classified.

9.2. Other information

Volatility (w/w) : 67 %.

VOC Volatility (w/w) : 67 %.

SECTION 10: Stability and reactivity

10.1. Reactivity

No specific test data related to reactivity available for this product or its ingredients.

10.2. Chemical stability

The product is stable.

10.3. Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4. Conditions to avoid

None.

10.5. Incompatible materials

None.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product/ingredient name	Result	Species	Dose	Exposure
butanone	LC50 Inhalation Vapor	Rat	23500 mg/m ³	8 hours
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
C.I. Solvent Black 29	LD50 Oral	Rat	>5000 mg/kg	-
	LDLo Dermal	Rat - Male, Female	>2000 mg/kg	-
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	LC50 Inhalation Dusts and mists	Rat - Male, Female	>5300 mg/m ³	4 hours
	LD50 Dermal	Rabbit 3	970 uL/kg	-
	LD50 Oral	Rat	7.01 g/kg	-
ethanol	LC50 Inhalation Gas.	Rat	20000 ppm	10 hours
	LD50 Oral	Rabbit	6300 mg/kg	-
	LD50 Oral	Rat	7060 mg/kg	-
Isopropyl alcohol	LC50 Inhalation Gas.	Rat	16000 ppm	8 hours
	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
ethyl acetate	LC50 Inhalation Gas.	Rat	1600 ppm	8 hours
	LD50 Oral	Rat	5620 mg/kg	-

SECTION 12: Ecological information

12.1. Toxicity

Ingredient name	Result	Species	Exposure
butanone	Acute EC50 2029 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	96 hours
	Acute EC50 308 mg/l Fresh water	Daphnia - Daphnia magna	48 hours'
	Acute LC50 2993 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	Chronic NOEC 1240 mg/l Fresh water	Algae - Pseudokirchnerella subcapitata	96 hours
C.I. Solvent Black 29	Acute EC50 >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	24 hours
	Acute LC50 >100 mg/l Fresh water	Fish - Danio rerio	96 hours
ethanol	Acute EC50 275 mg/l	Algae	72 hours
	Acute LC50 9248000 µg/l Fresh water	Daphnia-Daphnia magna-Neonate-<12 hours	48 hours
	Acute LC50 14200 mg/l	Fish	96 hours
	Chronic NOEC 4.995 mg/l Marine water	Algae - Ulva pertusa	96 hours
Isopropyl alcohol	Chronic NOEC 9.6 mg/l	Daphnia	9 days
	Acute EC50 >1800 mg/l Fresh water	Algae - Scenedesmus quadricauda	7 days
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 9640000 µg/l Fresh water	Fish - Pimephales promelas - 31 days - 20.6 mm - 0.117 g	96 hours
ethyl acetate	Chronic LOAEL 1800 mg/l Fresh water	Algae - Scenedesmus quadricauda	7 days
	Acute EC50 2500000 µg/l Fresh water	Algae - Selenastrum sp.	96 hours
	Acute LC50 154000 µg/l Fresh water	Daphnia - Daphnia cucullata - 11 days	48 hours
	Acute LC50 230000 µg/l Fresh water	Fish - Pimephales promelas - 29 to 30 days - 18.2 mm - 0.106 g	96 hours
	Chronic NOEC >100 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	Chronic NOEC 2400 µg/l Fresh water	Daphnia - Daphnia magna - <=24 hours	21 days
Chronic NOEC 75.6 mg/l Fresh water	Fish - Pimephales promelas - Embryo - <24 hours	32 days	

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12.2. Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
butanone	-	-	Readily
ethanol	-	-	Readily
[3-(2,3-epoxypropoxy)propyl]trimethoxysilane	-	-	Not readily
ethyl acetate	-	-	Readily
Isopropyl alcohol	-	-	Readily

12.3. Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
butanone	0.3	-	low
ethanol	-0.35	-	low
Isopropyl alcohol	0.05	-	low
ethyl acetate	0.68	30	low

12.4. Mobility in soil

Not available.

12.5. Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

12.6. Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

SECTION 14: Transport information

14.1. UN number

UN1210

14.2. UN proper shipping name

Printing Ink

14.3. Transport hazard class(es)



14.4. Packing group

II

14.5. Environmental hazards

No.

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14.6. Special precautions for user

No special measures required.

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not available.

SECTION 15: Regulatory information

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

Not available.

15.2. Chemical safety assessment

CERCLA: Hazardous substances: The following components are listed: butanone (55 - <65%); reaction mass of: tertalkyl(C12-C14) ammonium bis[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl(C12-C14) ammonium bis[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl(C12-C14) ammonium bis[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl]azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl(C12-C14) ammonium [[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]]-chromate(1-); tert-alkyl(C12-C14) ammonium [[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl]azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]]-chromate(1-); tert-alkyl(C12-C14) ammonium ((1-(4(or 5)-nitro-2-oxidophenylazo)-2-naphthalolato(1-(3-nitro-2-oxido-5-pentylphenylazo)-2-naphthalolato))chromate(1-) (5 - <10%); ethyl acetate (1 - <3%)

SECTION 16: Other information

Abbreviations and acronyms:

ATE = Acute Toxicity Estimate

DNEL = Derived No Effect Level

PNEC = Predicted No Effect Concentration

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