

SAFETY DATA SHEET

According to Regulation (EC) No. 1907/2006 (REACH) Article 31, Annex II as amended.

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

1.1 Product identifier

Product name: Energy Elite Deletion Pen

Product No.: 000001014482

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

Identified uses: Correction pen

Uses advised against: Reserved for industrial and professional use.

1.3 Details of the supplier of the safety data sheet

Manufacturer

Agfa Graphics NV
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Belgium

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E-mail: electronic.sds@agfa.com

National Supplier

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Brentford, Middlesex TW8 9AX
United Kingdom

Telephone: +44 (0)20 8 231 4616

Fax: +44 (0)20 8 231 4951

E-mail: electronic.sds@agfa.com

1.4 Emergency telephone number:

Emergency telephone number (Belgium) : +32 3 4443333 (24h/24h)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

The product has been classified according to the legislation in force.

Classification according to Regulation (EC) No 1272/2008 as amended.

Health Hazards

Acute toxicity (Oral)

Category 4

H302: Harmful if swallowed.

Skin corrosion

Category 1A

H314: Causes severe skin burns and eye damage.

Serious eye damage

Category 1

H318: Causes serious eye damage.

Specific Target Organ Toxicity - Category 3 H336: May cause drowsiness or dizziness.
 Single Exposure

2.2 Label Elements

Contains: formic acid...%
 #-Butyrolactone



Signal Words: Danger

Hazard Statement(s): H302: Harmful if swallowed.
 H314: Causes severe skin burns and eye damage.
 H336: May cause drowsiness or dizziness.

Target Organs:
 #-Butyrolactone narcotic effects

Precautionary Statement

Prevention: P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P260: Do not breathe dust/fume/gas/mist/vapors/spray.

Response: P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P310: Immediately call a POISON CENTER/doctor/...

Storage: P403+P233: Store in a well-ventilated place. Keep container tightly closed.

2.3 Other hazards Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria

SECTION 3: Composition/information on ingredients

3.2 Mixtures

General information: No data available.

Chemical name	Concentration	CAS-No.	EC No.	REACH Registration No.	M-Factor:	Notes

formic acid...%	50 - <100%	64-18-6	200-579-1	01- 2119491174- 37-XXXX	No data available.	#
#- Butyrolactone	25 - <50%	96-48-0	202-509-5	02- 2119471839- 21-0002	No data available.	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

PBT: persistent, bioaccumulative and toxic substance.

vPvB: very persistent and very bioaccumulative substance.

Classification

Chemical name	Classification	Notes
formic acid...%	Skin Corr.: 1A: H314 Skin Corr.: 1A: H314 Eye Dam.: 1: H318	Note B
#-Butyrolactone	Acute Tox.: 4: H302 Eye Dam.: 1: H318 STOT SE: 3: H336	

CLP: Regulation No. 1272/2008.

SECTION 4: First aid measures

4.1 Description of first aid measures

- Inhalation:** Move to fresh air.
- Eye contact:** Rinse immediately with plenty of water.
- Skin Contact:** Remove contaminated clothing and wash the skin thoroughly with soap and water after work.
- Ingestion:** Call a POISON CENTER/doctor/.../if you feel unwell. Rinse mouth.

4.2 Most important symptoms and effects, both acute and delayed: See section 11 of the SDS for additional information on health hazards.

4.3 Indication of any immediate medical attention and special treatment needed

- Hazards:** No data available.
- Treatment:** Symptoms may be delayed.

SECTION 5: Firefighting measures

General Fire Hazards: No unusual fire or explosion hazards noted.

5.1 Extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials. Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Do not use water jet as an extinguisher, as this will spread the fire.

- 5.2 Special hazards arising from the substance or mixture:** During fire, gases hazardous to health may be formed.
- 5.3 Advice for firefighters**
- Special fire fighting procedures:** No data available.
- Special protective equipment for fire-fighters:** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures:** Use personal protective equipment. Put on protective equipment before entering danger area.
- 6.2 Environmental Precautions:** Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.
- 6.3 Methods and material for containment and cleaning up:** Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.
- 6.4 Reference to other sections:** Dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Stop the flow of material, if this is without risk.

SECTION 7: Handling and storage:

- 7.1 Precautions for safe handling:** Do not taste or swallow. Wash hands thoroughly after handling.
- 7.2 Conditions for safe storage, including any incompatibilities:** Store away from incompatible materials.
- 7.3 Specific end use(s):** Reserved for industrial and professional use.

SECTION 8: Exposure controls/personal protection

8.1 Control Parameters

Occupational Exposure Limits

Chemical name	type	Exposure Limit Values		Source
formic acid...%	TWA	5 ppm	9.6 mg/m3	UK. EH40 Workplace Exposure Limits (WELs) (12 2011)
	TWA	5 ppm	9 mg/m3	EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU (12 2009)

Biological Limit Values

None.

DNEL-Values

Critical component	type	Route of Exposure		Remarks
formic acid...%	General population	Inhalation	9.5 mg/m3	Irritating to respiratory system.
	General population	Inhalation	3 mg/m3	Irritating to respiratory system.
	Workers	Inhalation	19 mg/m3	Irritating to respiratory system.
	Workers	Inhalation	9.5 mg/m3	Irritating to respiratory system.
#-Butyrolactone	Workers	Dermal	19 mg/kg	Repeated dose toxicity
	Workers	Inhalation	130 mg/m3	Repeated dose toxicity
	General population	Dermal	8 mg/kg	Repeated dose toxicity
	General population	Inhalation	340 mg/m3	Acute toxicity
	General population	Oral	8 mg/kg	Repeated dose toxicity
	Workers	Inhalation	958 mg/m3	Acute toxicity
	General population	Inhalation	28 mg/m3	Repeated dose toxicity

PNEC-Values

Critical component	Environmental compartment		Remarks
formic acid...%	Aquatic (marine water)	0.2 mg/l	
	Marine sediments	1.34 mg/kg	
	Aquatic (freshwater)	2 mg/l	
	Sewage treatment plant	7.2 mg/l	
	freshwater sediment	13.4 mg/kg	
	Aquatic (intermit. releases)	1 mg/l	
	soil	1.5 mg/kg	
#-Butyrolactone	Sewage treatment plant	452 mg/l	
	soil	0.014683 mg/kg	
	freshwater sediment	0.24 mg/kg	
	Aquatic (intermit. releases)	0.56 mg/l	
	Marine sediments	0.02 mg/kg	
	Aquatic (freshwater)	0.056 mg/l	
	Aquatic (marine water)	0.0056 mg/l	

8.2 Exposure controls

Appropriate Engineering Controls: Provide adequate ventilation.

Individual protection measures, such as personal protective equipment

General information: Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection: Safety goggles. EN 166.

Skin protection

Hand Protection: Protective gloves should be used if there is a risk of direct contact or splash.(EN374) Chemical resistant gloves required for prolonged or repeated contact. Butyl rubber. Glove thickness: > 0.70 mm Break-through time: > 480 min Risk of splashes: Nitrile rubber. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material.

Other: Safety clothes : long sleeved clothing EN13688

Respiratory Protection: In case of inadequate ventilation use suitable respirator (EN14387). Seek advice from local supervisor.

Hygiene measures: Do not eat, drink or smoke when using the product. Wash hands after handling.

Environmental Controls: Do not empty into drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state:	liquid
Form:	liquid
Color:	Colourless.
Odor:	Pungent smell
Odor Threshold:	
pH:	Not applicable
Freezing point:	< 0 °C (Literature.)
Boiling Point:	> 100 °C (Literature.)
Flash Point:	Not applicable
Evaporation Rate:	No data available
Flammability (solid, gas):	Not flammable.
Flammability Limit - Upper (%):	
Flammability Limit - Lower (%):	
Vapor pressure:	No data available
Vapor density (air=1):	No data available
Relative density:	1.10 (20 °C) (Literature.)
Solubility(ies)	
Solubility in Water:	No data available
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available
Autoignition Temperature:	No data available
Decomposition Temperature:	No data available.
Viscosity:	No data available
Explosive properties:	No data available.

Oxidizing properties: No data available.

SECTION 10: Stability and reactivity

- 10.1 Reactivity:** Material is stable under normal conditions.
- 10.2 Chemical Stability:** Material is stable under normal conditions.
- 10.3 Possibility of hazardous reactions:** No data available.
- 10.4 Conditions to avoid:** Avoid heat or contamination.
- 10.5 Incompatible Materials:** No data available.
- 10.6 Hazardous Decomposition Products:** By heating and fire, harmful vapors/gases may be formed.

SECTION 11: Toxicological information

Information on likely routes of exposure

- Inhalation:** Inhalation is the primary route of exposure. In high concentrations, vapors, fumes or mists may irritate nose, throat and mucus membranes.
- Ingestion:** Harmful if swallowed.
- Skin Contact:** Moderately irritating to skin with prolonged exposure.
- Eye contact:** Eye contact is possible and should be avoided.

11.1 Information on toxicological effects

Acute toxicity

Oral

Product: ATEmix: 924.51 mg/kg

Specified substance(s)

formic acid...% LD 50 (Rat): 730 mg/kg

#-Butyrolactone LD 50 (Rat): 1,540 mg/kg

Dermal

Product: Not classified for acute toxicity based on available data.

Specified substance(s)

formic acid...% LD 50 (Rat): > 2,000 mg/kg

#-Butyrolactone LD 50 (Guinea pig): 5,640 mg/kg

Inhalation**Product:****Specified substance(s)**

formic acid...% LC 50 (Rat, 4 h): 7.4 mg/l

#-Butyrolactone LC 50 (Rat, 4 h): > 5.1 mg/l

Repeated dose toxicity**Product:**

No data available.

Specified substance(s)

formic acid...%
LOAEL (Mouse(Female), Inhalation): 0.122 mg/l
NOAEL (Rat(Female, Male), Oral, 52 Weeks): 400 mg/kg
LOAEL (Rat(Female, Male), Inhalation): 1.2 mg/l
NOAEL (Mouse(Female, Male), Inhalation): 0.062 mg/l
LOAEL (Rat(Female, Male), Inhalation): 0.244 mg/l

#-Butyrolactone
NOAEL (Rat(Male), Oral, 13 Weeks): 225 mg/kg
NOAEL (Mouse(Female, Male), Oral, 13 Weeks): 525 mg/kg
NOAEL (Rat(Female), Oral, 13 Weeks): 450 mg/kg

Skin Corrosion/Irritation:**Product:**

No data available.

Specified substance(s)

formic acid...%
No data available.

#-Butyrolactone
in vivo (Rabbit): Not irritating

Serious Eye Damage/Eye Irritation:**Product:**

Causes serious eye damage.

Specified substance(s)

formic acid...%
No data available.

#-Butyrolactone
in vivo (Rabbit, 24 - 72 hrs): Category 1 EU

Respiratory or Skin Sensitization:**Product:**

No data available.

Specified substance(s)

formic acid...%
No data available.

#-Butyrolactone
No data available.

Germ Cell Mutagenicity**In vitro****Product:**

No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

In vivo

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Carcinogenicity

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Reproductive toxicity

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Specific Target Organ Toxicity - Single Exposure

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Specific Target Organ Toxicity - Repeated Exposure

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Target Organs:

#-Butyrolactone narcotic effects

Aspiration Hazard

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

SECTION 12: Ecological information

12.1 Toxicity

Acute toxicity

Fish

Product: No data available.

Specified substance(s)

formic acid...% LC 50 (Danio rerio, 96 h): 130 mg/l (Static) interpreted
 #-Butyrolactone LC 50 (Leuciscus idus, 96 h): 318 mg/l (Static) experimental result

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

formic acid...% EC 50 (48 h): 540 mg/l (Static) interpreted
 #-Butyrolactone EC 50 (48 h): > 500 mg/l (Static) experimental result

Chronic Toxicity

Fish

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

12.2 Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s)

formic acid...% No data available.
 #-Butyrolactone No data available.

BOD/COD Ratio

Product No data available.

Specified substance(s)

formic acid...% No data available.

#-Butyrolactone No data available.

12.3 Bioaccumulative Potential

Product: No data available.

Specified substance(s)

formic acid...% No data available.

#-Butyrolactone No data available.

12.4 Mobility in Soil:

No data available.

Known or predicted distribution to environmental compartments

formic acid...% No data available.

#-Butyrolactone No data available.

12.5 Results of PBT and vPvB assessment:

Not fulfilling PBT (persistent/bioaccumulative/toxic) criteria Not fulfilling vPvB (very persistent/very bioaccumulative) criteria

formic acid...% No data available.

#-Butyrolactone No data available.

12.6 Other Adverse Effects:

No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

General information:

Disposal considerations (including disposal of contaminated containers or packaging) Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Disposal methods:

Discharge, treatment, or disposal may be subject to national, state, or local laws.

SECTION 14: Transport information

ADR

14.1 UN Number: Not regulated.

14.2 UN Proper Shipping Name: Not regulated.

14.3 Transport Hazard Class(es) Not regulated.

14.4 Packing Group: Not regulated.

14.5 Environmental Hazards: Not regulated.

14.6 Special precautions for user: Not regulated.

RID

14.1 UN Number: Not regulated.

14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

IMDG

14.1 UN Number: Not regulated.
14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

IATA

14.1 UN Number: Not regulated.
14.2 UN Proper Shipping Name: Not regulated.
14.3 Transport Hazard Class(es) Not regulated.
14.4 Packing Group: Not regulated.
14.5 Environmental Hazards: Not regulated.
14.6 Special precautions for user: Not regulated.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: not applicable.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:****EU Regulations**

Regulation (EC) No. 2037/2000 Substances that deplete the ozone layer: none

Regulation (EC) No. 850/2004 on persistent organic pollutants: none

Regulation (EC) No. 689/2008 Import and export of dangerous chemicals: none

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended:
none

Regulation (EC) No. 1907/2006 Annex XVII Substances subject to restriction on marketing and use:
none

Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens and mutagens at work.: none

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breast feeding.: none

Directive 96/82/EC (Seveso II): on the control of major accident hazards involving dangerous substances: none

EU. Regulation No. 166/2006 PRTR (Pollutant Release and Transfer Registry), Annex II: Pollutants:
none

Directive 98/24/EC on the protection of workers from the risks related to chemical agents at work:

Chemical name	CAS-No.	Concentration
formic acid...%	64-18-6	60 - 70%

15.2 Chemical safety assessment:

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Revision Information: Not relevant.Not relevant.

Key literature references and sources for data: Safety Data Sheet from the supplier.
ECHA

Wording of the H-statements in section 2 and 3

H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H336	May cause drowsiness or dizziness.

Training information: No data available.

Classification according to Regulation (EC) No 1272/2008 as amended.

Acute Tox. 4, H302
Skin Corr. 1A, H314
Eye Dam. 1, H318
STOT SE 3, H336

Other information: This product is not manufactured by Agfa. The information disclosed in this Safety Data Sheet has been provided by the manufacturer.

Issue Date: 14.03.2016

SDS No.:

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.