

Printing date 14.02.2023 Version number 7 (replaces version 6) Revision: 14.02.2023

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

· 1.1 Product identifier

· Trade name: XP MicroSpray SU-8 Photoresist Spray

· Article number: MSS0014

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

No further relevant information available.

- · Sector of Use SU16 Manufacture of computer, electronic and optical products, electrical equipment
- · Application of the substance / the mixture Photoresist
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Kayaku Advanced Materials, Inc.

200 Flanders Road Westborough, MA 01581 Tel: (617) 965-5511

Fax: (617) 965-5818

The person responsible in EU Member State:

ONLY REPRESENTATIVE

Lionel Marcélis, PhD

President

REACH NATION SRL

22 Rue Notre Dame au Bois

1440 Braine-le-Château

**BELGIUM** 

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\*Only Representative for 2-methoxy-1-methylethyl acetate (CAS 108-65-6) only. Other substances are being supported under REACH by Only Representatives of Non-European suppliers and others may be exempt from registration.

Kayaku Advanced Materials, Inc.

200 Flanders Road

Westborough, MA 01581 Tel: (617) 965-5511

Fax: (617) 965-5818

· Further information obtainable from:

**Product Safety** 

Email: productsafety@kayakuAM.com

· 1.4 Emergency telephone number:

Kayaku Advanced Materials : 617-965-5511 Chemtrec USA Emergency : 800-424-9300 (24 hr)

Chemtrec International Emergency: 703-527-3887 (24 hr)

## SECTION 2: Hazards identification

- · 2.1 Classification of the substance or mixture
- · Classification according to Regulation (EC) No 1272/2008



Aerosol 1

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

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•		
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Skin Sens. 1	H317	May cause an allergic skin reaction.
STOT SE 3	H336	May cause drowsiness or dizziness.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.
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- · 2.2 Label elements
- · Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the CLP regulation.

· Hazard pictograms





GHS02

GHS07

- · Signal word Danger
- · Hazard-determining components of labelling:

Epoxy resin

1-Methoxy-2-propanol acetate

Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1) Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)

· Hazard statements

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.

H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
H412 Harmful to aquatic life with long lasting effects.

· Precautionary statements

P211 Do not spray on an open flame or other ignition source.

*P251 Do not pierce or burn, even after use.* 

*P260* Do not breathe dust/fume/gas/mist/vapours/spray.

*P273* Avoid release to the environment.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.

*P302+P352 IF ON SKIN: Wash with plenty of soap and water.* 

P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position

comfortable for breathing.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

present and easy to do. Continue rinsing.

P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use alcohol resistant foam to extinguish.

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P370+P378 In case of fire: Use fire-extinguishing powder to extinguish.

P370+P378 In case of fire: Use carbon dioxide to extinguish. P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

#### · 2.3 Other hazards

None of the ingredients are included in the list established in accordance with Article 59(1) for having endocrine disrupting properties.

None of the ingredients are substances identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 (or Commission Regulation (EU) 2018/605.

- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

### SECTION 3: Composition/information on ingredients

- · 3.2 Mixtures
- · Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:		
CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-2119475791-29-0050	1-Methoxy-2-propanol acetate → Flam. Liq. 3, H226; → STOT SE 3, H336	50-70%
	Epoxy resin  Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317	20-30%
CAS: 115-10-6 EINECS: 204-065-8 Index number: 603-019-00-8	dimethyl ether  Flam. Gas 1A, H220; Press. Gas (Comp.), H280	10-25%
CAS: 108-32-7 EINECS: 203-572-1 Index number: 607-194-00-1	Propylene carbonate  Skin Irrit. 2, H315; Eye Irrit. 2, H319	1-5%
CAS: 89452-37-9	Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)  Aquatic Acute 1, H400; Aquatic Chronic 1, H410;  Skin Sens. 1, H317	<1%
CAS: 71449-78-0	Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)  Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Skin Sens. 1, H317	<1%

<sup>·</sup> Additional information: For the wording of the listed hazard phrases refer to section 16.

### SECTION 4: First aid measures

- · 4.1 Description of first aid measures
- · General information:

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

· After skin contact:

*Immediately wash with water and soap and rinse thoroughly.* 

In cases of frost bites, rinse with plenty of water. Do not remove clothing.

· After eve contact:

Wash eyes immediately with a large amount of water or normal saline, occasionally lifting upper and lower eye lids until no evidence of chemical remains (about 20 minutes). Remove contact lenses if present and easy to remove. Seek immediate medical attention.

- · After swallowing: If symptoms persist consult doctor.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- · 4.3 Indication of any immediate medical attention and special treatment needed Treat symptomatically.

### SECTION 5: Firefighting measures

- · 5.1 Extinguishing media
- · Suitable extinguishing agents:

Carbon dioxide

Fire-extinguishing powder

Alcohol resistant foam

- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · 5.2 Special hazards arising from the substance or mixture

Containers may explode due to pressure increase when container is exposed to extreme heat. Vapors may travel a considerable distance to a source of ignition and flash back along vapor trail.

- · 5.3 Advice for firefighters
- · Protective equipment: Wear self-contained respiratory protective device.

## SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources.

· 6.2 Environmental precautions:

*Inform respective authorities in case of seepage into water course or sewage system.* 

Do not allow to enter sewers/surface or ground water.

· 6.3 Methods and material for containment and cleaning up:

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

Do not flush with water or aqueous cleansing agents

· 6.4 Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.



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### SECTION 7: Handling and storage

#### · 7.1 Precautions for safe handling

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

Ensure good ventilation/exhaust at the workplace.

Keep away from heat and direct sunlight.

Open and handle receptacle with care.

#### · Information about fire - and explosion protection:

Do not spray onto a naked flame or any incandescent material.

Keep ignition sources away - Do not smoke.

*Use explosion-proof apparatus / fittings and spark-proof tools.* 

Protect against electrostatic charges.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and containers:

Store in a cool location.

Observe official regulations on storing packagings with pressurised containers.

· Information about storage in one common storage facility:

Do not store together with alkalis (caustic solutions).

Do not store together with oxidising and acidic materials.

· Further information about storage conditions:

Store in cool, dry conditions in well sealed containers.

Protect from heat and direct sunlight.

Store receptacle in a well ventilated area.

· 7.3 Specific end use(s) No further relevant information available.

#### SECTION 8: Exposure controls/personal protection

· 8.1 Control parameters

### Ingredients with limit values that require monitoring at the workplace:

#### 108-65-6 1-Methoxy-2-propanol acetate

IOELV Short-term value: 550 mg/m³, 100 ppm Long-term value: 275 mg/m³, 50 ppm

Skin

#### 115-10-6 dimethyl ether

IOELV 1920 mg/m<sup>3</sup>, 1000 ppm

- · Additional information: The lists valid during the making were used as basis.
- · 8.2 Exposure controls
- · Appropriate engineering controls No further data; see item 7.
- · Individual protection measures, such as personal protective equipment
- · General protective and hygienic measures:

Keep away from food and beverages.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

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#### · Respiratory protection:

In case of low exposure use cartridge respirator. In case of intensive or longer exposure use self-contained respiratory protective device.

· Hand protection



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· Material of gloves Butyl rubber, BR Nitrile rubber, NBR

#### · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye/face protection



Tightly sealed goggles

### SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Physical state Aerosol

Colour: Amber coloured
Odour: Ester-like
Odour threshold: Not determined.
Melting point/freezing point: Undetermined.

· Boiling point or initial boiling point and boiling range -24 °C

· Flammability Not applicable.

· Lower and upper explosion limit

*· Lower:* 1.5 Vol % *· Upper:* 18.6 Vol %

· Flash point: -42 °C (クローズドカップ)

• Ignition temperature: 235 °C

Decomposition temperature: Not determined.pH Not determined.

· Viscosity:

Kinematic viscosityDynamic:Not determined.Not determined.

 $\cdot \textit{Solubility}$ 

· water: Not miscible or difficult to mix.

· Partition coefficient n-octanol/water (log value)
· Vapour pressure at 20 °C:

5200 hPa

· Density and/or relative density

Density: Not determinedRelative density Not determined.

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Vapour density	Not determined.
9.2 Other information	
Appearance:	
Form:	Aerosol
Important information on protection of he	alth and
environment, and on safety.	
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product is not explosive. However, formation of
	explosive air/vapour mixtures are possible.
Change in condition	
Evaporation rate	0.39  (BuAc=1)
Information with regard to physical hazard cl	lassas
Explosives	Void
Flammable gases	Void
Aerosols	rota
Extremely flammable aerosol. Pressurised con	tainer· May burst if heated
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flamma	ble gases
in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
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## SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability Stable

· Desensitised explosives

• Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.

Void

· 10.3 Possibility of hazardous reactions

Possible formation of peroxide.

Exothermic polymerisation.

· 10.4 Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Contact with incompatible materials.

· 10.5 Incompatible materials:

Strong Oxidizing Agents, Strong Bases, Strong Acids, Strong Reducing Agents, Iron, Hydrazine

· 10.6 Hazardous decomposition products:

Carbon monoxide and carbon dioxide

Corrosive gases/vapours

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Danger of forming toxic pyrolysis products.

### SECTION 11: Toxicological information

- · 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
- · Acute toxicity

Harmful if inhaled.

_			
	· LD/LC50 values relevant for classification:		
Γ	108-65-6 1-Methoxy-2-propanol acetate		
ſ	Oral	LD50	8532 mg/kg (Rat)
	Dermal	LD50	>5000 mg/kg (Rat)
	Inhalative	LC50/6 h	4345 ppm (Rat)
Γ	Epoxy resi	n	
	Oral	LD50	>2000 mg/kg (Rat)
	Dermal	LD50	>2000 mg/kg (rabbit)
	Inhalative	LC50	>5 mg/L (Rat)
115-10-6 dimethyl ether		er	
Γ	Inhalative	LC50 4 hr	164000 ppm (Rat)
Ī	108-32-7 Propylene carbonate		
ľ	Oral	LD50	>5000 mg/kg (Rat)
	Dermal	LD50	>2000 mg/kg (rabbit)

· Skin corrosion/irritation

Causes skin irritation.

· Serious eye damage/irritation

Causes serious eye irritation.

· Respiratory or skin sensitisation

May cause an allergic skin reaction.

- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- · Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure

May cause drowsiness or dizziness.

- · STOT-repeated exposure Based on available data, the classification criteria are not met.
- · Aspiration hazard Based on available data, the classification criteria are not met.
- · 11.2 Information on other hazards
- · Endocrine disrupting properties

None of the ingredients is listed.

### SECTION 12: Ecological information

· 12.1 Toxicity

· Aquatic toxi	· Aquatic toxicity:		
89452-37-9	Sulfonium, (thiodi-4,1-phenylene) bis[diphenyl-,(OC-6-11)-hexafluoroantimonate (1-) (1:2)		
LC50/24 h	4.4 mg/l (daphnia)		

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LC50/48 hr	0.68 mg/L (daphnia)
71449-78-0	Sulfonium, diphenyl[4-(phenylthio)phenyl]-, (OC-6-11)-hexafluoroantimonate(1-) (1:1)
LC50/24 h	4.4 mg/l (daphnia)
LC50/48 hr	0.68 mg/L (daphnia)
115-10-6 di	methyl ether
EC50/48 h	>4400 mg/l (daphnia magna)

- · 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 Mobility in soil No further relevant information available.
- · 12.5 Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · 12.6 Endocrine disrupting properties For information on endocrine disrupting properties see section 11.
- · 12.7 Other adverse effects
- · Remark: Toxic for fish
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

### SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system. Disposal must be made in accordance with International, National, and regional regulations.

- · Uncleaned packaging:
- · Recommendation: Disposal must be made according to official regulations.

· 14.1 UN number or ID number		
· ADR, IMDG, IATA	UN1950	
· 14.2 UN proper shipping name		
$\cdot ADR$	1950 AEROSOLS	
· IMDG	AEROSOLS	
· IATA	AEROSOLS, flammable	



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14.3 Transport hazard class(es)	
ADR	
Class	2 5F Gases.
Label	2.1
IMDG, IATA	
Class	2.1 Gases.
Label	2.1
14.4 Packing group	17. • 1
ADR, IMDG, IATA	Void
14.5 Environmental hazards:	37
Marine pollutant:	No
14.6 Special precautions for user	Warning: Gases.
Hazard identification number (Kemler code): EMS Number:	- F-D,S-U
14.7 Maritime transport in bulk according to IM instruments	10 Not applicable.
	ної аррисаоте.
Transport/Additional information:	
ADR	
Limited quantities (LQ)	1L
Transport category	2
Tunnel restriction code	D
UN "Model Regulation":	UN1950, AEROSOLS, 2.1

### SECTION 15: Regulatory information

- · 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Directive 2012/18/EU
- · Qualifying quantity (tonnes) for the application of lower-tier requirements 150 t
- · Qualifying quantity (tonnes) for the application of upper-tier requirements 500 t
- · REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3
- 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.



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#### SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### · Relevant phrases

H220 Extremely flammable gas.

H226 Flammable liquid and vapour.

H280 Contains gas under pressure; may explode if heated.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

#### · Classification according to Regulation (EC) No 1272/2008

Art. 9(1) of Regulation (EC) No. 1272/2008 was used for classification purposes.

- · Department issuing SDS: Product safety department
- · Contact: Tom Cole, EHS Manager (tcole@kayakuAM.com)
- · Revision History:

The manufacturer's information in Section 1, the product hazard information in Section 2 and the component hazard information in Section 3 have been updated.

- · Version number of previous version: 6
- · Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

Flam. Gas 1A: Flammable gases - Category 1A

Aerosol 1: Aerosols – Category 1

Press. Gas (Comp.): Gases under pressure - Compressed gas

Flam. Liq. 3: Flammable liquids – Category 3

Acute Tox. 4: Acute toxicity - Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard - Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard - Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard - Category 3