

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product name **KYOWAGLAS-XA**

General use X-ray shielding

SDS number XA199804E

Supplier

Name Kuraray Co., Ltd.

Section Sheets Marketing & Sales Dept, Methacrylate Division

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2. HAZARDS IDENTIFICATION

CLP classification

Classification according to Regulation(EC)No.1272/2008[CLP] : Not classified

Adverse physicochemical, human health and environmental effects : No additional information available

Label element

Labeling according to Regulation (EC) No. 1272/2008[CLP] : No labeling applicable

Physical hazards Flammable solids : Not applicable

Pyrophoric solids : Not applicable

Self-heating substances : Not classified

Health hazards Acute toxicity(oral) : Not applicable

Respiratory / Skin sensitizer : Not classified

Toxic to reproduction : Not applicable

Environmental effect If dumped on the ground, lead contained in this product may pollute soil.

Classification is impossible not applicable for hazards not mentioned above.

Precautionary statement

Since the product contains lead, please handle it based on the local regulations.

<Safety measures>

- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.

- If ventilation is not sufficient, wear appropriate respirator.
- When heated to a high temperature like thermal molding, do not to inhale the odoriferous gas generated. Since there is a possibility that flammable gas is generated, attention should be paid to the fire.
- Wear appropriate protective gloves.
- Use the personal protection and ventilation equipment if necessary to avoid exposure.
- Do not inhale the dust and fumes.
- Do not inhale the mist, vapor and spray

<Emergency measures>

- If inhaled and hard to breathe, remove victim to fresh air and be rest in a breathing easy attitude.
- If had breathing symptoms, contact the doctor.
- If adhered to the skin, wash with plenty of soap and water.
- If adhered to the skin and resulted skin irritation or rash, contact the doctor to have the diagnosis and treatment.
- If there is exposure or that concern, contact the doctor to have the diagnosis and treatment.
- Contaminated work clothing should not be allowed out of the workplace.
- Be laundered before re-use contaminated clothing.

<Storage>

- It is stored in locked.

<Disposal>

- Please be sure to follow the laws, regulations, guidelines and standards of the state and local authorities in disposing of KYOWAGLAS-XA

3. COMPOSITION, INFORMATION ON INGREDIENTS

SINGLE CHEMICAL SUBSTANCE OR MIXTURE : Article

COMPOSITION :.

COMPONENTS	Lead compound	Methyl methacrylate (Residual monomer)	Methacrylic Acid (Residual monomer)	2-Ethylhexanoic acid (Residual monomer)
CHEMICAL OR STRUCTURAL FORMULA	Non-disclosure	C ₅ H ₈ O ₂	C ₄ H ₆ O ₂	C ₈ H ₁₆ O ₂
CAS No.	Non-disclosure	80-62-6	79-41-4	149-57-5
Concentration	More than 97% (within Pb 25%~35%)	Less than 1%	Less than 1%	Less than 1%

4. FIRST-AID MEASURES

Information

Inhalation (dust in cutting or polishing)

Remove the victim from the contamination immediately to fresh air and get a medical treatment .

Skin contact (dust in cutting or polishing)

Wash affected area with lots of water and soap and get a medical treatment if necessary.

Eye contact (dust in cutting or polishing)

Gently rinse the affected eyes with clean water for at least 15 minutes. Arrange for transport to the nearest medical facility for examination and treatment by a physician as soon as possible.

Ingestion (dust in cutting and polishing)

Rinse mouth with water. Try to get the victim to vomit by having the victim touch the back of their throat with finger and get a medical treatment as soon as possible.

Notes to physician

Treat symptomatically.

Treatment may vary with condition of victim and specifics of incident.

5. FIRE-FIGHTING MEASURES

Extinguish media

In case of fire, use water spray, foam, dry chemical powder or carbon dioxide. Blockade air with foam if fire is large.

Specific methods

Keep personnel removed from and upwind of fire. Take a proper measure not to leak environmental pollutant from water and ash after fire is extinguished.

Protections of firefighters

Firefighters should wear proper protective equipment. (goggle, gloves, mask, etc.)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

- When do the machining operation like cutting, grinding and polishing, etc., wear protective equipment (gloves, glasses, a mask) to protect from the debris and dust.
- In preparation for the case of ignition, prepare a fire extinguishing equipment

Environmental precautions

- Dust generated during product processing goods, should not be discharged into rivers and lakes so as not to cause effects on the environment.

Methods for cleaning up, recovery

- Use vacuum cleaner or broom to sweep up the debris and dust.
- Use vacuum to suck the dust to make sure it not be scattered.

- Use a safety tool that does not generate a spark for recovery.

7. HANDLING AND STORAGE

Handling

Technical measures

- Handle in a well-ventilated place.
- Place the equipment closely to the handling location to cleanse face and body for emergency
- Do not inhale the divergence steam and dust.
- When handling at outdoors, work as much as possible from the windward.
- Since the edges of the product are sharp, use protective equipment such as gloves.
- When cutting and grinding, wear protective equipment such as protective glasses.
- When cutting and grinding, wear protection mask and install exhaust facility at the appropriate local in order to prevent scattering chips and inhaling dust.
- Since static electricity may be generated, take appropriate precautionary measures against static discharge.
- Because the product may be affected by the solvent, does not wipe the surface with a solvent. Clean the surface using water, neutral detergent or ethanol.
- Prohibit the use of high temperature materials, spark and fire in the product around.
- Do not use rough handling like to fall in product or add a shock such as dropping to the product.

Exhaust

- In any of the operations, make sure the workplace adequately ventilated
- In any of the operations, handle it at the location of the local exhaust, or the entire ventilation equipment.

Storage

Technical measures

Storage conditions : Avoid direct sunlight, high temperature and humidity.
Store in a cool, dry and well-ventilated room.

Incompatible products : Not applicable

Packaging materials : Polyethylene sheet and absorbent are recommended to avoid moisture absorption.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

Lead (Pb) (Cas No. 7439-92-1)

※ KYOWAGLAS-XA contains lead. The exposure control parameters herein are lead(Pb)' information for reference only.

United Kingdom	WEL STEL (mg/m ³)	0.45 mg/m ³ (calculated)
Finland	HTP-arvo (8h) (mg/m ³)	0.1 mg/m ³ (all works)
Sweden	nivågränsvärde (NVG) (mg/m ³)	0.1 mg/m ³ (total inhalable dust) 0.05 mg/m ³ (total respirable dust)

Methyl methacrylate (Cas No. 80-62-6)

EU	IOELV TWA (ppm)	50 ppm
EU	IOELV STEL (ppm)	100 ppm
France	VLE (mg/m ³)	410 mg/m ³ (restrictive limit)
France	VLE (ppm)	100 ppm (restrictive limit)
France	VME (mg/m ³)	205 mg/m ³ (restrictive limit)
France	VME (ppm)	50 ppm (restrictive limit)
Germany	TRGS 900 Occupational exposure limit value (mg/m ³)	210 mg/m ³ (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Germany	TRGS 900 Occupational exposure limit value (ppm)	50 ppm (The risk of damage to the embryo or fetus can be excluded when AGW and BGW values are observed)
Italy	ACGIH TWA (ppm)	50 ppm
Italy	ACGIH STEL (ppm)	100 ppm
Italy	OEL TWA (ppm)	50 ppm
Italy	OEL STEL (ppm)	100 ppm
United Kingdom	WEL TWA (mg/m ³)	208 mg/m ³
United Kingdom	WEL TWA (ppm)	50 ppm
United Kingdom	WEL STEL (mg/m ³)	416 mg/m ³
United Kingdom	WEL STEL (ppm)	100 ppm
Finland	HTP-arvo (8h) (mg/m ³)	42 mg/m ³
Finland	HTP-arvo (8h) (ppm)	10 ppm
Finland	HTP-arvo (15 min)	210 mg/m ³
Finland	HTP-arvo (15 min) (ppm)	50 ppm
Sweden	nivågränsvärde (NVG) (mg/m ³)	200 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	50 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	600 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	150 ppm

Methacrylic Acid (Cas No. 79-41-4)

France	VME (mg/m ³)	70 mg/m ³
France	VME (ppm)	20 ppm
Italy	ACGIH TWA (ppm)	20 ppm
United Kingdom	WEL TWA (mg/m ³)	72 mg/m ³
United Kingdom	WEL TWA (ppm)	20 ppm
United Kingdom	WEL STEL (mg/m ³)	143 mg/m ³
United Kingdom	WEL STEL (ppm)	40 ppm
Finland	HTP-arvo (8h) (mg/m ³)	71 mg/m ³

Finland	HTP-arvo (8h) (ppm)	20 ppm
Sweden	nivågränsvärde (NVG) (mg/m ³)	70 mg/m ³
Sweden	nivågränsvärde (NVG) (ppm)	20 ppm
Sweden	kortidsvärde (KTV) (mg/m ³)	100 mg/m ³
Sweden	kortidsvärde (KTV) (ppm)	30 ppm

2-Ethylhexanoic acid (Cas No. 149-57-5)

Italy	ACGIH TWA (mg/m ³)	5 mg/m ³ (inhalable fraction and vapor)
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Personal protective equipment

- Respiratory protection** : Use dust-proof mask in machining.
- Hand protection** : Wear safety gloves .
- Eye protection** : Wear chemical goggles and face shield.
- Skin and body protection** : To prevent any contact, wear impervious clothing such as gloves, apron, boots and overall.

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical state**

Form : Solid

Colour : Transparent

Odour : None

Decomposition temperature : This product starts to turn soft around 80~90 degrees.

Flashpoint : No data

Explosion properties : Not applicable

Density : Approx. 1.6 g/cm³

Solubility

Water solubility : Not soluble

Fat solubility : Slightly soluble (by alcohol, ketone, etc)

Flammability(solid) : Almost as soluble as acrylic sheet

Relative density : Approx. 1.6

10. STABILITY AND REACTIVITY

Stability : This product is considered a stable material under normal and anticipated storage and handling conditions.

Possible hazardous reactions : None

Hazardous decomposition products : Lead

11. TOXICOLOGICAL INFORMATION

Acute toxicity : No data available
Local effects : No data available
Sensitization : No data available
Chronic toxicity : No data available
Long term toxicity : No data available
Specific effect y : No data available

KYOWAGLAS-XA contains lead. Toxicological information of lead for reference:

Lead can affect a variety of organ systems, including the nervous system, kidneys, reproductive system, blood formation, and gastrointestinal system.

12. ECOLOGICAL INFORMATION

Mobility : Lead contained in KYOWAGLAS-XA may be distributed to and pollute environmental compartment.

13. DISPOSAL CONSIDERATIONS

Waste from residues

As KYOWAGLAS-XA contains lead, improper disposal of the product may cause harm to environment. Please be sure to follow the laws, regulations, guidelines and standards of state and local authorities in disposing of KYOWAGLAS-XA.

Also, please provide all end-users with the above-mentioned information.

14. TRANSPORT INFORMATION

The UN classification number : Not applicable

Specific precautionary transport measures and conditions

Stabilize load in lading to avoid collapse. Follow all regulations in your country.

15. REGULATORY INFORMATION

EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no REACH Annex XIV substances

National regulations

Ensure this material is in compliance with federal requirements and conformity to local regulations.

16. OTHER INFORMATION

To the best of our knowledge, the information contained here in is accurate. However, neither Kuraray Co., Ltd. nor any subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used in caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist.