



Safety Data Sheet

Performance Modified Acrylic Resin

Section 1 - Chemical Product and Company Identification

SDS Name: Performance Modified Acrylic Resin

Product Name: PF-MAR-G

Synonyms: none – proprietary formulation

Manufacturer: ChemPak International, L.L.C.

10175 Queens Way

Chagrin Falls, OH 44023

Phone: 440-543-8511

Chemtrec Emergency Phone: 800-424-9300

Outside the USA: 703-527-3887

Section 2 - Hazards Identification

GHS Classification

Flammable liquids : Category 3

Skin irritation : Category 2

Eye irritation : Category 2A

**Specific target organ
systemic toxicity -
single exposure** : Category 3 (Respiratory system)

**Specific target organ
systemic toxicity -
repeated exposure** : Category 1 (Auditory system)

GHS Label element

Hazard pictograms :



Signal Word : **Danger**

Hazard Statements : Flammable liquid and vapor.
May form combustible dust concentrations in air.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.
Causes damage to organs (Auditory system) through prolonged
or repeated exposure if inhaled.

Precautionary Statements**: Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical/ ventilating/ lighting/ equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves/ eye protection/ face protection.

Response:

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Get medical advice/ attention if you feel unwell.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage:

Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal:

Dispose of contents/ container to an approved waste disposal plant.

Other hazards: Static Accumulating liquid

Section 3 - Composition, Information on Ingredients

Product Name: PF-MAR-G

Synonyms: none – proprietary formulation

| Ingredient | CAS Number | % by weight |
|------------------|--------------|-------------|
| Polymer (s) | Trade Secret | 51.0 – 55.0 |
| Stryene | 100-42-5 | 44.2 |
| Light Stabilizer | Trade Secret | 4.0 – 4.2 |
| DMA | 121-69-7 | 0.0 – 1.0 |

The specific chemical(s) identity has been withheld as a trade secret.

Hazardous components

Flam. Liq. 3; H226
Acute Tox. 4; H332
Skin Irrit. 2; H315
Eye Irrit. 2A; H319
STOT SE 3; H335
STOT RE 1; H372

Section 4 - First Aid Measures

- | | |
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| General advice | : Move out of dangerous area. Call a POISON CENTRE or doctor/physician if exposed or you feel unwell. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended. |
| If inhaled | : Move to fresh air. IF INHALED: Call a POISON CENTER or doctor/ physician if you feel unwell. Keep patient warm and at rest. If unconscious place in recovery position and seek medical advice. |
| In case of skin contact | : Remove contaminated clothing. If irritation develops, get medical attention. If on skin, rinse well with water. Wash contaminated clothing before re-use. If on clothes, remove clothes. |
| In case of eye contact | : Immediately flush eye(s) with plenty of water. Remove contact lenses. Protect unharmed eye. |
| If swallowed | : Obtain medical attention. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. |
| Most important symptoms and effects, both acute and delayed | : Signs and symptoms of exposure to this material through breathing, swallowing, and/or passage of the material through the skin may include: stomach or intestinal upset (nausea, vomiting, diarrhea) irritation (nose, throat, airways) confusion. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation. Causes damage to organs through prolonged or repeated exposure if inhaled. |
| Notes to physician | : No hazards which require special first aid measures. |

Section 5 - Fire Fighting Measures

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| Suitable extinguishing media | : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray Foam Alcohol-resistant foam Carbon dioxide (CO ₂) Dry chemical |
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during firefighting | : Organic dusts at sufficient concentration can form explosive mixtures in air. Never use welding or cutting torch on or near drum (even empty) because product (even just residue) can ignite explosively. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Do not allow run-off from fire fighting to enter drains or water courses. |

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| Hazardous combustion products | : carbon dioxide and carbon monoxide, toxic fumes Hydrocarbons |
| Specific extinguishing methods | : Product is compatible with standard fire-fighting agents. |
| Further information | : Do not use a solid water stream as it may scatter and spread fire. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers. Polymerization will take place under fire conditions. If polymerization occurs in a closed container, there is a possibility it will rupture violently. Cool storage container with water, if exposed to fire. |
| Special protective equipment for firefighters | : In the event of fire, wear self-contained breathing apparatus. |

Section 6 - Accidental Release Measures

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| Personal precautions, protective equipment and emergency procedures | : Evacuate personnel to safe areas. Remove all sources of ignition. Use personal protective equipment. Ensure adequate ventilation. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. Persons not wearing protective equipment should be excluded from area of spill until clean-up has been completed. |
| Environmental precautions | : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities. |
| Methods and materials for containment and cleaning up | : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). |
| Other information | : Comply with all applicable federal, state, and local regulations. Suppress (knock down) gases/vapors/mists with a water spray jet. |

Section 7 - Handling and Storage

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| Advice on safe handling and protection against fire and explosion | : Open drum carefully as content may be under pressure. Avoid formation of aerosol. Provide sufficient air exchange and/or exhaust in work rooms. Do not breathe vapors/dust. Do not smoke. Container hazardous when empty. |
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Take precautionary measures against static discharges (which might cause ignition of organic vapours). No sparking tools should be used. Keep away from open flames, hot surfaces and sources of ignition.

Use only explosion-proof equipment.

Static ignition hazard can result from handling and use. Electrically bond and ground all containers, personnel and equipment before transfer or use of material. Special precautions may be necessary to dissipate static electricity for non-conductive containers. Use proper bonding and grounding during product transfer as described in National Fire Protection Association document NFPA 77.

Avoid exposure - obtain special instructions before use. Avoid contact with skin and eyes. Smoking, eating and drinking should be prohibited in the application area.

For personal protection see section 8. Dispose of rinse water in accordance with local and national regulations. Secondary operations, such as grinding and sanding, may produce dust. Maintain good housekeeping. Do not permit dust layers to accumulate, for example, on floors, ledges, and equipment, in order to avoid any potential for dust explosion hazards.

For further guidance on prevention of dust explosions, refer to National Fire Protection Association (NFPA) 654: "Standard for the Prevention of Fire and Dust Explosions, from the Manufacturing, Processing and Handling of Combustible Particulate Solids".

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. No smoking. Electrical installations / working

Section 8 - Exposure Controls, Personal Protection

Components with workplace control parameters

| Components | CAS-No. | Value type (Form of exposure) | Control parameters / Permissible concentration | Basis |
|------------|----------|----------------------------------|---|-------------|
| STYRENE | 100-42-5 | TWA | 20 ppm | ACGIH |
| | | STEL | 40 ppm | ACGIH |
| | | REL | 50 ppm 215 mg/m3 | NIOSH/GUIDE |
| | | STEL | 100 ppm 425 mg/m3 | NIOSH/GUIDE |
| | | TWA | 100 ppm | OSHA/Z2 |
| | | Ceiling | 200 ppm | OSHA/Z2 |
| | | MAX. CONC | 600 ppm | OSHA/Z2 |

Biological occupational exposure limits

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|------------|---------|--------------------|---------------------|---------------|---------------------------|-------|
|------------|---------|--------------------|---------------------|---------------|---------------------------|-------|

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|----------|-------------------|---|---------------------|------------------------------|----------|--|
| STYRENE | 100-42-5 | styrene | Venous blood | Sampling time: End of shift. | 0.2 mg/l | |
| Remarks: | Semi-quantitative | | | | | |
| | | Mandelic acid plus phenylglyoxylic acid | Creatinine in urine | Sampling time: End of shift. | 400 mg/g | |
| Remarks: | Nonspecific | | | | | |

Engineering measures : Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below exposure guidelines (if applicable) or below levels that cause known, suspected or apparent adverse effects.
Provide appropriate exhaust ventilation at places where dust is formed.

Personal protective equipment

Respiratory protection : In the case of vapor formation use a respirator with an approved filter. Organic vapor type.

A NIOSH-approved air-purifying respirator with an appropriate cartridge and/or filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits (if applicable) or if overexposure has otherwise been determined. Protection provided by air-purifying respirators is limited. Use a positive pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are not known or any other circumstances where an air-purifying respirator may not provide adequate protection.

Hand protection

Material : polyvinyl alcohol

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Wear chemical splash goggles when there is the potential for exposure of the eyes to liquid, vapor or mist.

Skin and body protection : Wear as appropriate:
impervious clothing
Safety shoes
Flame-resistant clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Discard gloves that show tears, pinholes, or signs of wear. Wear resistant gloves (consult your safety equipment supplier).

Hygiene measures : Wash hands before breaks and at the end of workday.
When using do not eat or drink.
When using do not smoke.

Section 9 - Physical and Chemical Properties

Physical state : liquid
Odor : pungent
Odor Threshold : No data available

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| pH | : No data available |
| Melting point/freezing point | : No data available |
| Boiling point/boiling range | : 293 °F / 145 °C |
| Flash point | : 79.99 °F / 26.66 °C Method: Seta closed cup |
| Evaporation rate | : > 1 Ethyl Ether |
| Flammability (liquids) | : Static Accumulating liquid |
| Flammability (liquids) | : |
| Upper explosion limit | : 6.1 %(V) |
| Lower explosion limit | : 1.1 %(V) |
| Vapor pressure | : 8.53248 hPa (25 °C) Calculated Vapor Pressure |
| Relative vapor density | : > 1AIR=1 |
| Relative density | : No data available |
| Density | : 1.078 g/cm ³ (25 °C) |
| Solubility(ies) | |
| Water solubility | : insoluble |
| Solubility in other | : No data available |
| Partition coefficient: n-octanol/water | : No data available |
| Thermal decomposition | : No data available |
| Viscosity | |
| Viscosity, dynamic | : No data available |
| Viscosity, kinematic | : > 20.5 mm ² /s (40 °C) |
| Oxidizing properties | : No data available |

Section 10 - Stability and Reactivity

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| Reactivity | : No decomposition if stored and applied as directed. |
| Chemical stability | : Stable under recommended storage conditions. |
| Possibility of hazardous reactions | : Hazardous polymerization may occur. Vapors may form explosive mixture with air. This product does not present a dust explosion hazard as delivered. However, fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source, is a potential dust explosion hazard. |
| Conditions to avoid | : Heat, flames and sparks. Exposure to air. Exposure to sunlight. |
| Incompatible materials | : Acids aluminum aluminum chloride Bases Copper Copper alloys halogens iron chloride metal salts strong bases Strong oxidizing agents Peroxides |

Section 11 - Toxicological Information

Information on likely routes of exposure : Inhalation, Skin contact, Eye Contact, & Ingestion

Acute toxicity Not classified based on available information.

Components:

STYRENE:

Acute oral toxicity : LD50 Oral (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC 50 (Rat): 11.8 mg/l, 2770 ppm
Exposure time: 4 h
Test atmosphere: vapor

No observed adverse effect level (Humans): 100 ppm
Exposure time: 7 h
Test atmosphere: vapor

Acute dermal toxicity : LD 50 (Rat): > 2,000 mg/kg
Method: OECD Test Guideline 402
Assessment: No adverse effect has been observed in acute dermal toxicity tests.

Skin corrosion/irritation Causes skin irritation.

Product:

Result: Repeated exposure may cause skin dryness or cracking.

Remarks: May cause skin irritation and/or dermatitis.

Components:

STYRENE:

Species: Rabbit Result:

Result: Irritating to skin

Serious eye damage/eye irritation Causes serious eye irritation.

Product:

Remarks: Vapors may cause irritation to the eyes, respiratory system and the skin., Causes serious eye irritation.

Components:

STYRENE:

Result: Irritating to eyes

Remarks: Vapor during processing may be irritating to the respiratory tract and to the eyes.

Respiratory or skin sensitization

Skin sensitization: Not classified based on available information. Respiratory sensitization: Not classified based on available information.

Components:

STYRENE:

Exposure routes: Skin contact
Species: Guinea pig
Assessment: Does not cause skin sensitization.
Result: negative

Exposure routes: inhalation (vapor)
Species: Humans
Assessment: Does not cause respiratory sensitization.
Result: negative

Germ cell mutagenicity Not classified based on available information.

Carcinogenicity Not classified based on available information.

Product:

Carcinogenicity - Assessment : Styrene has been tested for carcinogenicity in rats and mice. Styrene caused lung tumors in mice only. These tumors are not considered to be relevant to humans.

Reproductive toxicity Not classified based on available information.

STOT - single exposure May cause respiratory irritation.

Components:

STYRENE:
Assessment: May cause respiratory irritation.

STOT - repeated exposure

Causes damage to organs (Auditory system) through prolonged or repeated exposure if inhaled.

Components:

STYRENE:
Exposure routes: inhalation (vapor)
Target Organs: Auditory system
Assessment: Causes damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

STYRENE:
Species: Human
85 mg/m³
Application Route: inhalation (vapor)

Species:
Human
615 g/kg
Application Route: Skin contact

Aspiration toxicity Not classified based on available information.

Components:

STYRENE: May be fatal if swallowed and enters airways.

Further information

Product:

Remarks: Solvents may degrease the skin.

Carcinogenicity:

| | |
|----------------|---|
| IARC | Group 2B: Possibly carcinogenic to humans |
| STYRENE | 100-42-5 |

| | | |
|------|---|----------|
| OSHA | No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. | |
| NTP | Reasonably anticipated to be a human carcinogen | |
| | STYRENE | 100-42-5 |

Section 12 - Ecological Information

Ecotoxicity Components:

STYRENE:

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| Toxicity to fish | : LC 50 (Pimephales promelas (fathead minnow)): 4.02 mg/l Exposure time: 96 h |
| Toxicity to daphnia and other aquatic invertebrates | : EC 50 (Water flea (Daphnia magna)): 4.7 mg/l Exposure time: 48 h |
| Toxicity to algae | : ErC50 (Pseudokirchneriella subcapitata (green algae)): 4.9 mg/l Exposure time: 72 h |
| Toxicity to daphnia and other aquatic | : NOEC (Water flea (Daphnia magna)): 1.01 mg/l Exposure time: 21 d |
| Toxicity to bacteria | : EC 50 (activated sludge): ca. 500 mg/l Exposure time: 0.5 h |
| Toxicity to soil dwelling organisms | : NOEC (Eisenia fetida (earthworms)): 34 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 |

Persistence and degradability

Components:

STYRENE:

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|-------------------------|---|
| Biodegradability | : Result: Readily biodegradable Biodegradation: > 60 % Exposure time: 10 d |
|-------------------------|---|

Bioaccumulative potential

Components:

STYRENE:

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|---|--|
| Bioaccumulation | : Bioconcentration factor (BCF): < 100 |
| Partition coefficient: n-octanol/water | : log Pow: 2.96 (25 °C) |

Mobility in soil

Components:

STYRENE:

| | |
|---|------------|
| Distribution among environmental | : Koc: 352 |
|---|------------|

Other adverse effects

Product:

Additional ecological information

: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal., Toxic to aquatic life.

Components:

STYRENE:

Results of PBT and vPvB assessment

: This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

Section 13 - Disposal Considerations

Disposal methods

General advice

: The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

Dispose of in accordance with all applicable local, state and federal regulations.

Contaminated packaging:

Empty remaining contents. Dispose of as unused product.

Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

Section 14 - Transport Information

International transport regulations

REGULATION

| ID NUMBER | PROPER SHIPPING NAME | *HAZARD CLASS | PACKING GROUP |
|--|----------------------|---------------|---------------|
| U.S. DOT - ROAD | | | |
| UN 1866 | Resin solution | 3 | III |
| U.S. DOT - RAIL | | | |
| UN 1866 | Resin solution | 3 | III |
| U.S. DOT - INLAND WATERWAYS | | | |
| UN 1866 | Resin solution | 3 | III |
| TRANSPORT CANADA - ROAD | | | |
| UN 1866 | RESIN SOLUTION | 3 | III |
| TRANSPORT CANADA - RAIL | | | |
| UN 1866 | RESIN SOLUTION | 3 | III |
| TRANSPORT CANADA - INLAND WATERWAYS | | | |
| UN 1866 | RESIN SOLUTION | 3 | III |

INTERNATIONAL MARITIME DANGEROUS GOODS

| | | | | |
|----|------|----------------|---|-----|
| UN | 1866 | RESIN SOLUTION | 3 | III |
|----|------|----------------|---|-----|

INTERNATIONAL AIR TRANSPORT ASSOCIATION - CARGO

| | | | | |
|----|------|----------------|---|-----|
| UN | 1866 | Resin solution | 3 | III |
|----|------|----------------|---|-----|

INTERNATIONAL AIR TRANSPORT ASSOCIATION - PASSENGER

| | | | | |
|----|------|----------------|---|-----|
| UN | 1866 | Resin solution | 3 | III |
|----|------|----------------|---|-----|

MEXICAN REGULATION FOR THE LAND TRANSPORT OF HAZARDOUS MATERIALS AND WASTES

| | | | | |
|----|------|-----------------------|---|-----|
| UN | 1866 | RESINA, SOLUCIONES DE | 3 | III |
|----|------|-----------------------|---|-----|

***ORM = ORM-D, CBL = COMBUSTIBLE LIQUID**

| | |
|------------------|-----|
| Marine pollutant | yes |
|------------------|-----|

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

Section 15 - Regulatory Information

EPCRA - Emergency Planning and Community Right-to-Know Act**CERCLA Reportable Quantity**

| Components | CAS-No. | Component RQ (lbs) | Calculated product RQ (lbs) |
|------------|----------|-----------------------|--------------------------------|
| STYRENE | 100-42-5 | 1000 | 2151.847253 |

SARA 311/312 Hazards : Reactivity Hazard
Acute Health Hazard
Fire Hazard
Chronic Health Hazard

SARA 313 Component(s)

STYRENE 100-42-5 46.47 %

California Prop 65

WARNING! This product contains a chemical known to the State of California to cause cancer.

BENZENE 71-43-2

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

BENZENE 71-43-2

TOLUENE 108-88-3

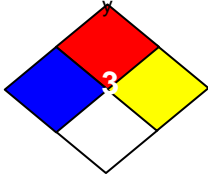
The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory
DSL : This product contains the following components listed on the Canadian NDSL. All other components are on the Canadian DSL.
AUSTR : On the inventory, or in compliance with the inventory
ENCS : On the inventory, or in compliance with the inventory
KECL : On the inventory, or in compliance with the inventory
PICCS : Not in compliance with the inventory
IECSC : On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TSCA (USA)

Section 16 - Additional Information

| NFPA: | HMIS III: | | | | | | |
|--|--|--------|----|--------------|---|-----------------|---|
| <p>Flammability</p>  <p>Special</p> | <table><tr><td>HEALTH</td><td>2*</td></tr><tr><td>FLAMMABILITY</td><td>3</td></tr><tr><td>PHYSICAL HAZARD</td><td>2</td></tr></table> <p>0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme *</p> | HEALTH | 2* | FLAMMABILITY | 3 | PHYSICAL HAZARD | 2 |
| HEALTH | 2* | | | | | | |
| FLAMMABILITY | 3 | | | | | | |
| PHYSICAL HAZARD | 2 | | | | | | |

NFPA Flammable and Combustible Liquids Classification

Flammable Liquid Class IC

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------|--|
| H226 | Flammable liquid and vapor. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H372 | Causes damage to organs through prolonged or repeated exposure if inhaled. |

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