

ASTC Polymers

Santa Ana, CA 92704

Date printed 03.09.2015, Revision 03.09.2015

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**
**1.1 Product identifier**

**PenMend 4034 Part A**

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

Fillers  
Repair

**1.2.2 Uses advised against**

None known.

**1.3 Details of the supplier of the safety data sheet**

<b>Company</b>	ASTC Polymers 3207 West Warner Ave. Santa Ana, CA 92704 / USA Phone +1 714.966.2893 Fax +1 714.966.9105 Homepage <a href="http://www.astcpolymers.com">www.astcpolymers.com</a> E-mail <a href="mailto:info@astcpolymers.com">info@astcpolymers.com</a>
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**Address enquiries to**

<b>Technical information</b>	<a href="mailto:info@astcpolymers.com">info@astcpolymers.com</a>
<b>Safety Data Sheet</b>	<a href="mailto:sdb@chemiebuero.de">sdb@chemiebuero.de</a>

**1.4 Emergency telephone number**

<b>Company</b>	+1 714-552-6915 & +1 714-803-1274
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**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture**

Flam. Liq. 4: H227 Combustible Liquid.  
 Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.  
 Skin Irrit. 2: H315 Causes skin irritation.  
 Skin Sens. 1: H317 May cause an allergic skin reaction.  
 Eye Irrit. 2: H319 Causes serious eye irritation.  
 Acute Tox. 4: H332 Harmful if inhaled.  
 Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 STOT SE 3: H335 May cause respiratory irritation.  
 STOT SE 3: H336 May cause drowsiness or dizziness.  
 Carc. 2: H351 Suspected of causing cancer.  
 STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.  
 Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.

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## 2.2 Label elements

### Hazard pictograms



### Signal word

DANGER

### Hazard statements

H227 Combustible Liquid.  
 H304 May be fatal if swallowed and enters airways.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction.  
 H319 Causes serious eye irritation.  
 H332 Harmful if inhaled.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H335 May cause respiratory irritation.  
 H336 May cause drowsiness or dizziness.  
 H351 Suspected of causing cancer.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H411 Toxic to aquatic life with long lasting effects.

### Precautionary statements

P201 Obtain special instructions before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P260 Do not breathe vapours / spray.  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves / protective clothing / eye protection / face protection.  
 P284 In case of inadequate ventilation wear respiratory protection.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor.  
 P331 Do NOT induce vomiting.  
 P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
 P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER / doctor.  
 P312 Call a POISON CENTER / doctor if you feel unwell.

## 2.3 Other hazards

### Human health dangers

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter is used.

### Other hazards

Further hazards were not determined with the current level of knowledge.

## SECTION 3: Composition / Information on ingredients

### Product-type:

The product is a mixture.

Range [%]	Substance
40 - 60	Methylenediphenyl diisocyanate CAS: 101-68-8, EINECS/ELINCS: 202-966-0, EU-INDEX: 615-005-00-9 GHS/CLP: Carc. 2: H351 - Acute Tox. 4: H332 - STOT RE 2: H373 - Eye Irrit. 2: H319 - STOT SE 3: H335 - Skin Irrit. 2: H315 - Resp. Sens. 1: H334 - Skin Sens. 1: H317
20 - 30	Solvent naphtha (petroleum), heavy arom. CAS: 64742-94-5, EINECS/ELINCS: 265-198-5, EU-INDEX: 649-424-00-3 GHS/CLP: Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411
3 - 8	Naphthalene CAS: 91-20-3, EINECS/ELINCS: 202-049-5, EU-INDEX: 601-052-00-2 GHS/CLP: Carc. 2: H351 - Acute Tox. 4: H302 - Aquatic Acute 1: H400 - Aquatic Chronic 1: H410

### Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.  
 For full text of H-statements: see SECTION 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>General information</b>	Take off contaminated clothing and wash before reuse.
<b>Inhalation</b>	Ensure supply of fresh air. Remove the victim into fresh air and keep him calm. Consult a doctor immediately.
<b>Skin contact</b>	In case of contact with skin wash off immediately with soap and water. Consult a doctor if skin irritation persists.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Consult a doctor immediately. Do not induce vomiting. Rinse out mouth and give plenty of water to drink.

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

Irritant effects  
Allergic reactions  
Cough  
Vertigo  
Nausea, vomiting.  
Headache  
Tiredness  
Redness

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

Treat symptomatically.  
If swallowed or in the event of vomiting, risk of product entering the lungs.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Dry powder. Carbon dioxide. Foam.
<b>Extinguishing media that must not be used</b>	Full water jet

### 5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.  
Carbon monoxide (CO)  
Nitrogen oxides (NOx).  
Hydrogen cyanide (HCN).  
Not combusted hydrocarbons.

### 5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.  
Use self-contained breathing apparatus.  
Wear full protective suit.  
  
Heat causes increase in pressure and risk of bursting - Keep away from the container.  
Cool containers at risk with water spray jet.  
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

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**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

Keep away from all sources of ignition.  
Ensure adequate ventilation.  
Use breathing apparatus if exposed to vapours/aerosol.  
Use personal protective equipment.  
High risk of slipping due to leakage/spillage of product.  
Remove persons to safety.

**6.2 Environmental precautions**

Prevent spread over a wide area (e.g. by containment or oil barriers).  
Do not discharge into the drains/surface waters/groundwater.  
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

**6.3 Methods and material for containment and cleaning up**

Take up with absorbent material (e.g. general-purpose binder).  
Dispose of absorbed material in accordance within the regulations.

**6.4 Reference to other sections**

See SECTION 8+13

**SECTION 7: Handling and storage****7.1 Precautions for safe handling**

Use only in well-ventilated areas.  
Avoid spilling or spraying in enclosed areas.  
Vacuuming in situ required.  
  
Keep away from open flames, hot surfaces and sources of ignition.  
Take precautionary measures against static discharges.  
Ground/bond container and receiving equipment.  
Use explosion-proofed equipment/fittings and non-sparkling tools.  
  
Do not eat, drink, smoke or take drugs at work.  
Take off contaminated clothing and wash before reuse.  
Contaminated work clothing should not be allowed out of the workplace.  
Showers and eye wash stations should be provided.  
Clean skin thoroughly after work, apply skin cream.  
Use barrier skin cream.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep only in original container.  
Prevent penetration into the ground.  
  
Keep away from water.  
Do not store together with oxidizing agents.  
Do not store together with acids and alkalies.  
  
Keep container tightly closed.  
Keep container in a well-ventilated place.  
Keep in a cool place. Store in a dry place.  
Protect from heat/overheating and from sun.

**7.3 Specific end use(s)**

See product use, SECTION 1.2

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## SECTION 8: Exposure controls / personal protection

### 8.1 Control parameters

Ingredients with occupational  
exposure limits to be monitored

	Substance
	Methylenediphenyl diisocyanate
	CAS: 101-68-8, EINECS/ELINCS: 202-966-0, EU-INDEX: 615-005-00-9
	Long-term exposure: 0,005 ppm, 0,05 mg/m <sup>3</sup> , NIOSH
	Naphthalene
	CAS: 91-20-3, EINECS/ELINCS: 202-049-5, EU-INDEX: 601-052-00-2
	Long-term exposure: 10 ppm, 50 mg/m <sup>3</sup> , OSHA
	Short-term exposure (15-minute): 15 ppm, 75 mg/m <sup>3</sup> , OSHA
	Solvent naphtha (petroleum), heavy arom.
	CAS: 64742-94-5, EINECS/ELINCS: 265-198-5, EU-INDEX: 649-424-00-3
	Long-term exposure: 100 ppm, 525 mg/m <sup>3</sup> , OSHA

### 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Using suitable discharges or exhaust ventilation.
<b>Eye protection</b>	safety glasses
<b>Hand protection</b>	The details concerned are recommendations. Please contact the glove supplier for further information. 0,7mm: Butyl rubber, >480 min 0,7mm: Nitrile rubber, >480 min 0,7mm: Neoprene, >480 min
<b>Skin protection</b>	Protective clothing.
<b>Other</b>	Avoid contact with eyes and skin. Do not breathe vapour/spray. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
<b>Respiratory protection</b>	If ventilation is insufficient, wear respiratory protection.
<b>Thermal hazards</b>	not applicable
<b>Delimitation and monitoring of the environmental exposition</b>	Comply with applicable environmental regulations limiting discharge to air, water and soil.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Form	liquid
Color	No information available.
Odor	mild aromatic
Odour threshold	No information available.
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	> 148°C / > 300°F
Flash point [°C]	62°C / 145°F
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidizing properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	1,00 (20 °C / 68,0 °F)
Bulk density [kg/m <sup>3</sup> ]	not applicable
Solubility in water	reacts with water
Partition coefficient [n-octanol/water]	No information available.
Viscosity	No information available.
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	No information available.
Autoignition temperature [°C]	No information available.
Decomposition temperature [°C]	No information available.

### 9.2 Other information

none

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Upon decomposition in closed containers and tubes risk of bursting due to buildup of overpressure.

### 10.2 Chemical stability

Stable under normal ambient conditions (ambient temperature).

### 10.3 Possibility of hazardous reactions

Reactions with acids, alkalis and oxidizing agents.  
Reactions with water.  
Reactions with alcohols.  
Reactions with amines.

### 10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.  
Contact with moisture.  
Strong heating.  
Sunlight



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### **10.5 Incompatible materials**

See SECTION 10.3.

Various metals.

### **10.6 Hazardous decomposition products**

In the event of fire: See SECTION 5.

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Product
ATE-mix, oral, > 5000 mg/kg.
ATE-mix, inhalativ (vapour ), > 10 - 20 mg/l/4h.

Range [%]	Substance
40 - 60	Methylenediphenyl diisocyanate, CAS: 101-68-8
	LD50, dermal, Rabbit: > 9000 mg/kg.
	LD50, oral, Rat: > 5000 mg/kg.
	LC50, inhalative, Rat: 0,49 mg/l/4h (Lit.).
20 - 30	Solvent naphtha (petroleum), heavy arom., CAS: 64742-94-5
	LD50, oral, Rat: > 5000 mg/kg (Lit.).
3 - 8	Naphthalene, CAS: 91-20-3
	LD50, oral, mouse: 533 mg/kg (OECD 401)(Lit.).
	LD50, dermal, Rat: > 2500 mg/kg (IUCLID).
	LD50, oral, Rat: > 2000 mg/kg (IUCLID).
	LC50, inhalative, Rat: > 100 ppm(8h) (IUCLID).
	NOAEL, dermal, Rat: 300 mg/kg/90d (OECD 411)(Lit.).
	NOAEL, oral, mouse: 133 mg/kg/90d (OECD 408)(Lit.).
	LOAEL, inhalativ (vapour ), Rat: 0,011 mg/kg/90d (OECD 413)(Lit.).

<b>Serious eye damage/irritation</b>	Toxicological data of complete product are not available. Irritant Calculation method
<b>Skin corrosion/irritation</b>	Toxicological data of complete product are not available. Irritant Calculation method
<b>Respiratory or skin sensitisation</b>	Toxicological data of complete product are not available. Sensitizing. Calculation method
<b>Specific target organ toxicity — single exposure</b>	Toxicological data of complete product are not available. May cause respiratory irritation. Vapours may cause drowsiness and dizziness. Calculation method
<b>Specific target organ toxicity — repeated exposure</b>	Toxicological data of complete product are not available. May cause damage to organs through prolonged or repeated exposure. Calculation method
<b>Mutagenicity</b>	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
<b>Reproduction toxicity</b>	Toxicological data of complete product are not available. Based on the available information, the classification criteria are not fulfilled.
<b>Carcinogenicity</b>	Toxicological data of complete product are not available. Suspected of causing cancer. Calculation method
<b>Aspiration hazard</b>	Toxicological data of complete product are not available. May be fatal if swallowed and enters airways. Calculation method
<b>General remarks</b>	Symptoms: abdominal pain, nausea, vomiting, diarrhoea.  The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.



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**SECTION 12: Ecological information****12.1 Toxicity**

Range [%]	Substance
40 - 60	Methylenediphenyl diisocyanate, CAS: 101-68-8
	EC50, (24h), Daphnia magna: 0,35 mg/L (Lit.).
	IC50, (72h), Desmodemus subspicatus: 1,5 mg/L (Lit.).
3 - 8	Naphthalene, CAS: 91-20-3
	LC50, (72h), Pimephales promelas: 6,08 mg/l (IUCLID).
	LC50, (24h), Pimephales promelas: 7,76 mg/l (IUCLID).
	EC50, (48h), Daphnia magna: 2,16 mg/l (IUCLID).

**12.2 Persistence and degradability**

ThSB: 2.990 mg/g (Lit.)(CAS 91-20-3)  
 BOD/ThBOD: 0% (Lit.)(CAS 91-20-3)  
 COD/ThBOD: 22% (Lit.)(CAS 91-20-3)

**Behaviour in environment compartments**

No information available.

**Behaviour in sewage plant**

No information available.

**Biological degradability**

CAS 101-68-8: The product is not readily biodegradable.

**12.3 Bioaccumulative potential**

log Pow: 3,3 (20°C / 68°F)(OECD 107)(CAS 91-20-3)  
 BCF: 36,5 - 168 (OECD 305)(CAS 91-20-3)

**12.4 Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

No information available.

**12.6 Other adverse effects**

Ecological data of complete product are not available.

The product was classified on the basis of the calculation procedure of the preparation directive.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

Do not discharge product unmonitored into the environment or into the drainage.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Waste must be disposed of in accordance with federal, state and local environmental control regulations. Consult your local or regional authorities.

**Product**

Dispose of as hazardous waste.  
 For recycling, consult manufacturer.

**Contaminated packaging**

Uncontaminated packaging may be taken for recycling.  
 Packaging that cannot be cleaned should be disposed of as for product.

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## SECTION 14: Transport information

### 14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

### 14.2 UN proper shipping name

Transport by land according to ADR/RID UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Naphthalene) 9 III

- Classification Code

M6

- Label



- ADR LQ

5 I

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 3 (E)

Inland navigation (ADN)

UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Naphthalene) 9 III

- Classification Code

M6

- Label



Marine transport in accordance with IMDG

UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Naphthalene) 9 III MARINE POLLUTANT

- EMS

F-A, S-F

- Label



- IMDG LQ

5 I

Air transport in accordance with IATA UN 3082 Environmentally hazardous substance, liquid, n.o.s. (Naphthalene) 9 III

- Label



DOT Road Shipment Information (49 CFR) UN/NA NA1993 Combustible liquid, n.o.s.

Footnote: This material is not regulated under 49 CFR in a container of 119 gallon capacity or less when transported solely by land. Comb liq III

### 14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

### 14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

### 14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

### 14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

No information available.

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

**TRANSPORT-REGULATIONS** DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).  
**NATIONAL REGULATIONS (GHS):** GHS Rev.5 (2013)

- **Observe employment restrictions for people** Observe employment restrictions for young people.  
 Observe employment restrictions for mothers-to-be and nursing mothers.  
 - **VOC (1999/13/CE)** No information available.

**15.2 Chemical safety assessment**

Chemical safety assessments for substances in this mixture were not carried out.

**SECTION 16: Other information****16.1 Hazard statements (SECTION 3)**

H411 Toxic to aquatic life with long lasting effects.  
 H336 May cause drowsiness or dizziness.  
 H304 May be fatal if swallowed and enters airways.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H400 Very toxic to aquatic life.  
 H302 Harmful if swallowed.  
 H317 May cause an allergic skin reaction.  
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 H315 Causes skin irritation.  
 H335 May cause respiratory irritation.  
 H319 Causes serious eye irritation.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H332 Harmful if inhaled.  
 H351 Suspected of causing cancer.

**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 TLV@TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

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### 16.3 Other information

#### Classification procedure

Flam. Liq. 4: H227 Combustible Liquid. (On basis of test data)  
Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (Calculation method)  
Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)  
Skin Sens. 1: H317 May cause an allergic skin reaction. (Calculation method)  
Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)  
Acute Tox. 4: H332 Harmful if inhaled. (Calculation method)  
Resp. Sens. 1: H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled. (Calculation method)  
STOT SE 3: H335 May cause respiratory irritation. (Calculation method)  
STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)  
Carc. 2: H351 Suspected of causing cancer. (Calculation method)  
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method)  
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)

#### Modified position

none



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