

**Safety Data Sheet**  
acc. to OSHA HCS

Printing Date 02/07/2014

Revision Number 1

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**1 Identification**

- **Product identifier**
- **Trade name:** LA4123
- **Article number:** 14712
- **Relevant identified uses of the substance or mixture.** Adhesive
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
Royal Adhesives & Sealants, LLC  
Aerospace & Marine Inflatable Adhesives & Coatings Division  
48 Burgess Place  
Wayne, NJ 07470  
Information Phone Number: 973-694-0845  
Emergency Phone Number: 973-694-0845
- **Information department:** Environment protection department.
- **Emergency telephone number:** ChemTrec: UNITED STATES 1(800)424-9300 INTERNATIONAL 703-527-3887

**2 Hazard(s) identification**

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.



GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335-H336 May cause respiratory irritation. May cause drowsiness or dizziness.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** *Danger*
- **Hazard statements**  
Highly flammable liquid and vapor.  
Causes serious eye irritation.

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*Suspected of damaging fertility or the unborn child.*

*May cause respiratory irritation. May cause drowsiness or dizziness.*

· **Precautionary statements**

*If medical advice is needed, have product container or label at hand.*

*Keep out of reach of children.*

*Read label before use.*

*Keep away from heat/sparks/open flames/hot surfaces. - No smoking.*

*Use explosion-proof electrical/ventilating/lighting/equipment.*

*IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.*

*IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.*

*Continue rinsing.*

*Store locked up.*

*Dispose of contents/container in accordance with local/regional/national/international regulations.*

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 3

Reactivity = 1

· **HMIS-ratings (scale 0 - 4)**

HEALTH	2
FIRE	3
PHYSICAL HAZARD	1

Health = 2

Fire = 3

Physical Hazard = 1

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

### 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Description:** Adhesive

· **Dangerous components:**

109-99-9	tetrahydrofuran	25-50%
78-93-3	methyl ethyl ketone	25-50%
108-94-1	cyclohexanone	2.5-10%
	TSRN1397250002-5011P	na%
108-88-3	toluene	≤1.0%

### 4 First-aid measures

· **Description of first aid measures**

· **After inhalation:**

*Supply fresh air or oxygen; call for doctor.*

*In case of unconsciousness place patient stably in side position for transportation.*

· **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*

· **After eye contact:** *Rinse opened eye for 20 minutes under running water. Call a Doctor immediately.*

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- **After swallowing:**  
Rinse out mouth with water. Drink 1 - 2 glasses of water but **DO NOT** induce vomiting. Do not give liquids to a drowsy, convulsing or unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.  
Call a doctor immediately.
- **Information for doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, sand, extinguishing powder. Do not use water.  
Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** Water
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Protective clothing and respiratory protective device.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Ensure adequate ventilation  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste in accordance with federal state and local regulations.  
Ensure adequate ventilation.
- **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.

### 7 Handling and storage

- **Handling:**
- **Precautions for safe handling**  
Avoid prolonged or repeated contact with skin.  
Avoid contact with eyes.  
Wash thoroughly after handling.  
Open containers in a well ventilated area and avoid breathing headspace vapors.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**  
Keep container closed when not in use.  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.

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- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location away from direct heat.
- **Information about storage in one common storage facility:** Store away from oxidizing agents.
- **Further information about storage conditions:**
  - Keep receptacle tightly sealed.
  - Store under inert gas.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

### · Components with limit values that require monitoring at the workplace:

#### 109-99-9 tetrahydrofuran (25-50%)

PEL	Long-term value: 590 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 735 mg/m <sup>3</sup> , 250 ppm Long-term value: 590 mg/m <sup>3</sup> , 200 ppm
TLV	Short-term value: 295 mg/m <sup>3</sup> , 100 ppm Long-term value: 147 mg/m <sup>3</sup> , 50 ppm Skin

#### 78-93-3 methyl ethyl ketone (25-50%)

PEL	Long-term value: 590 mg/m <sup>3</sup> , 200 ppm
REL	Short-term value: 885 mg/m <sup>3</sup> , 300 ppm Long-term value: 590 mg/m <sup>3</sup> , 200 ppm
TLV	Short-term value: 885 mg/m <sup>3</sup> , 300 ppm Long-term value: 590 mg/m <sup>3</sup> , 200 ppm BEI

#### 108-94-1 cyclohexanone (2.5-10%)

PEL	Long-term value: 200 mg/m <sup>3</sup> , 50 ppm
REL	Long-term value: 100 mg/m <sup>3</sup> , 25 ppm Skin
TLV	Long-term value: 50 mg/m <sup>3</sup> , 20 ppm Skin

#### 108-88-3 toluene (≤1.0%)

PEL	Short-term value: C 300; 500* ppm Long-term value: 200 ppm *10-min peak per 8-hr shift
REL	Short-term value: 560 mg/m <sup>3</sup> , 150 ppm Long-term value: 375 mg/m <sup>3</sup> , 100 ppm
TLV	Long-term value: 75 mg/m <sup>3</sup> , 20 ppm BEI

### · Ingredients with biological limit values:

#### 109-99-9 tetrahydrofuran (25-50%)

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BEI 2 mg/L  
 Medium: urine  
 Time: end of shift  
 Parameter: Tetrahydrofuran

**78-93-3 methyl ethyl ketone (25-50%)**

BEI 2 mg/L  
 Medium: urine  
 Time: end of shift  
 Parameter: MEK

**108-94-1 cyclohexanone (2.5-10%)**

BEI 80 mg/L  
 Medium: urine  
 Time: end of shift at end of workweek  
 Parameter: 1.2-Cyclohexanediol with hydrolysis (nonspecific, semi-quantitative)

8 mg/L  
 Medium: urine  
 Time: end of shift  
 Parameter: Cyclohexanol with hydrolysis (nonspecific, semi-quantitative)

**108-88-3 toluene ( $\leq 1.0\%$ )**

BEI 0.02 mg/L  
 Medium: blood  
 Time: prior to last shift of workweek  
 Parameter: Toluene

0.03 mg/L  
 Medium: urine  
 Time: end of shift  
 Parameter: Toluene

0.3 mg/g creatinine  
 Medium: urine  
 Time: end of shift  
 Parameter: o-Cresol with hydrolysis (background)

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment (see listings below)**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

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.

· **Breathing equipment:**

Use approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.

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· **Protection of hands:**



Protective gloves

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

· **Material of gloves**

Nitrile rubber, NBR

Chloroprene rubber, CR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **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 protection:**

Safety glasses with side shields.



Tightly sealed goggles

· **Body protection:** Protective work clothing

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Not determined.
<b>Odor:</b>	Characteristic
<b>Odour threshold:</b>	Not determined.

· **pH-value:** Not determined.

· **Change in condition**

<b>Melting point:</b>	Undetermined.
<b>Boiling point:</b>	65 °C (149 °F)

· **Flash point:** -21 °C (-6 °F)

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** 230 °C (446 °F)

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not selfigniting.

· **Danger of explosion:** May form explosive peroxides.

· **Flammable limits:**

<b>Lower:</b>	1.5 Vol %
<b>Upper:</b>	12.0 Vol %

· **Vapor pressure at 20 °C (68 °F):** 200 hPa (150 mm Hg)

· **Specific gravity at 20 °C (68 °F):** 0.887 g/cm<sup>3</sup> (7.402 lbs/gal)

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· <b>Relative density</b>	Not determined.
· <b>Vapour density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Solvent content:</b>	
<b>VOC (Per EPA 24)</b>	not available GMS/L
· <b>Solids content:</b>	not available
· <b>Other information</b>	Pounds Per Gallon 7.40 Lbs VOC/Gallon [less water. less exempts] 6.65 Grams VOC/Liter [less water. less exempts] 796.79

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** not reactive, as supplied.
- **Conditions to avoid**  
Heat, flames, sparks.  
When exposed to air, organic peroxides may develop.
- **Incompatible materials:**  
Reacts with oxidizing agents.  
Reacts with acids.  
Reacts with alkalis (bases)  
reducing agents.  
copper and copper alloys.
- **Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** May irritate the skin.
- **on the eye:**  
May be severely irritating to the eyes.  
Vapors may be irritating to the eyes.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Irritant

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· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

108-94-1	cyclohexanone	3
108-88-3	toluene	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** At present there are no ecotoxicological assessments.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must be specially treated adhering to official regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

- **UN-Number**
- **DOT, ADR, IMDG, IATA** UN1133
- **UN proper shipping name**
- **DOT** Adhesives
- **ADR** 1133 Adhesives
- **IMDG, IATA** ADHESIVES

· **Transport hazard class(es)**

· **DOT**



- **Class** 3 Flammable liquids.

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· <b>Label</b>	3
· <b>ADR, IMDG, IATA</b>	
	
· <b>Class</b>	3 Flammable liquids
· <b>Label</b>	3
· <b>Packing group</b>	II
· <b>DOT, ADR, IMDG, IATA</b>	II
· <b>Environmental hazards:</b>	Not applicable.
· <b>Special precautions for user</b>	Warning: Flammable liquids
· <b>Danger code (Kemler):</b>	33
· <b>EMS Number:</b>	F-E,S-E
· <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
· <b>UN "Model Regulation":</b>	UN1133, Adhesives, 3, II

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· <b>Section 355 (extremely hazardous substances):</b>
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None of the ingredients is listed.
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· <b>Section 313 (Specific toxic chemical listings):</b>
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108-88-3   toluene
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· <b>TSCA (Toxic Substances Control Act):</b>
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All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.
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· <b>Proposition 65</b>
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· <b>Chemicals known to cause cancer:</b>
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None of the ingredients is listed.
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· <b>Chemicals known to cause reproductive toxicity:</b>
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108-88-3   toluene
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· <b>(DSL) Canada Domestic Substance List</b>
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All components of this product are on the DSL(Canada Domestic Substance list) or are exempt from DSL requirements.
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· <b>Carcinogenicity categories</b>
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· <b>EPA (Environmental Protection Agency)</b>
--

78-93-3   methyl ethyl ketone	I
108-88-3   toluene	II

· <b>TLV (Threshold Limit Value established by ACGIH)</b>
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109-99-9   tetrahydrofuran	A3
108-94-1   cyclohexanone	A3

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108-88-3	toluene	A4
· <b>MAK (German Maximum Workplace Concentration)</b>		
109-99-9	tetrahydrofuran	4
108-94-1	cyclohexanone	3B

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

· **National regulations:**

- **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

Although the information and recommendations set forth in this MSDS are presented in good faith and are believed to be correct as of the date of this MSDS, Royal Adhesives & Sealants makes no representations as to the completeness or accuracy thereof. Information is supplied on the condition that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Royal Adhesives & Sealants or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the MSDS.

· **Department issuing MSDS:** Environment protection department.· **Creation Date:** 02/03/2014· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

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