547-053

Date : 03/15/2013
Version : 1

Material Safety Data Sheet

DURA-INK®15 Silver

1. Product and company identification

Product name	: DURA-INK®15 Silver 96027
Material uses	: FOR INDUSTRIAL USE ONLY Marker for cardboard, wood, metal, paper, ceramics, glass, leather and rubber.
Supplier/Manufacturer	: LA-CO Industries, Inc. 1201 Pratt Boulevard Elk Grove Village, IL. 60007-5746
MSDS authored by	: KMK Regulatory Services Inc.
In case of emergency	: CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887

2. Hazards identification

This MSDS reflects the health, physical and environmental hazards of the liquid ink contained within the pen/ marker. Because of the nature of the finished product i.e. the fact that the ink is held internally within the pen/ marker inside a closed (sealed) container, and given that the liquid is present in a small quantity and is released in very small amounts during normal use, the user of the product and/or the reader of this MSDS should consider the potential exposure to the ink to be minimal and controlled during the normal use of the product. Refer to relevant sections of the MSDS (7 and 13) for additional information on handling and disposal considerations. To avoid any potential hazard and to minimize the risk of exposure, it is important that the user of the product does NOT open, heat, burn or expose it to a source of intense heat, as this could release the ink.

Emergency overview

Physical state	: Solid in cylindrical form.
Color	: Silver.
Odor	: Solvent.
Hazard statements	: NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.
OSHA/HCS status	: While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Inhalation	: No known significant effects or critical hazards.
Ingestion	: No known significant effects or critical hazards.
Skin	: No known significant effects or critical hazards.
Eyes	: No known significant effects or critical hazards.

Potential chronic health effects

Chronic effects	: No known significant effects or critical hazards.
Carcinogenicity	: No known significant effects or critical hazards.
Mutagenicity	: No known significant effects or critical hazards.
Teratogenicity	: No known significant effects or critical hazards.

2. Hazards identification

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Target organs : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin : No known significant effects or critical hazards.

Eyes : No known significant effects or critical hazards.

Medical conditions aggravated by over-exposure : None known.

See toxicological Information (Section 11)

3. Composition/information on ingredients

United States

Name	CAS number	%
Methylcyclohexane Aluminum	108-87-2 7429-90-5	60 - 100 10 - 30

Canada

Name	CAS number	%
Methylcyclohexane Aluminum	108-87-2 7429-90-5	60 - 100 10 - 30

Mexico

					Classification			
Name	CAS number	UN number	%	IDLH	H	F	R	Special
Methylcyclohexane Aluminum	108-87-2 7429-90-5	UN2296 UN1309	60 - 100 10 - 30	1200 ppm -	1 1	3 2	0 0	- -

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

Eye contact : Immediately flush eyes with plenty of water for at least 20 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if symptoms occur.

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention if symptoms occur.

Inhalation : Move exposed person to fresh air. Get medical attention if symptoms occur.

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

Protection of first-aiders : No special protection is required.

Notes to physician : No specific treatment. Treat symptomatically.

5. Fire-fighting measures

Flammability of the product : No specific fire or explosion hazard.

Extinguishing media

Suitable : Use dry chemical, CO_2 or foam.

Not suitable : None known.

Special exposure hazards : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Spill : Move containers from spill area. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Workers should wash hands and face before eating, drinking and smoking. Avoid breathing vapor or mist. Use only with adequate ventilation. Store and use away from heat, sparks, open flame or any other ignition source.

Storage : Store in accordance with local regulations.

8. Exposure controls/personal protection

United States

Ingredient	Exposure limits
Methylcyclohexane	**ACGIH TLV (United States, 2/2010).** TWA: 1610 mg/m³ 8 hours. TWA: 400 ppm 8 hours. **NIOSH REL (United States, 6/2009).** TWA: 1600 mg/m³ 10 hours. TWA: 400 ppm 10 hours. **OSHA PEL (United States, 6/2010).** TWA: 2000 mg/m³ 8 hours. TWA: 500 ppm 8 hours. **OSHA PEL 1989 (United States, 3/1989).** TWA: 400 ppm 8 hours. TWA: 1600 mg/m³ 8 hours.
Aluminum	**NIOSH REL (United States, 6/2009).** TWA: 5 mg/m³ 10 hours. Form: Respirable fraction TWA: 10 mg/m³ 10 hours. Form: Total **OSHA PEL (United States, 6/2010).** TWA: 5 mg/m³, (as Al) 8 hours. Form: Respirable fraction TWA: 15 mg/m³, (as Al) 8 hours. Form: Total dust **ACGIH TLV (United States, 3/2012).**

8. Exposure controls/personal protection

	TWA: 1 mg/m³ 8 hours. Form: Respirable fraction

Canada

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Methylcyclohexane	US ACGIH 2/2010	400	1610	-	-	-	-	-	-	-	
	AB 4/2009	400	1610	-	-	-	-	-	-	-	
	BC 9/2010	400	-	-	-	-	-	-	-	-	
	ON 7/2010	400	1610	-	-	-	-	-	-	-	
	QC 6/2008	400	1610	-	-	-	-	-	-	-	
Aluminum	US ACGIH 3/2012	-	1	-	-	-	-	-	-	-	[a]
	AB 4/2009	-	10	-	-	-	-	-	-	-	[3] [b]
	BC 4/2012	-	1	-	-	-	-	-	-	-	[c]
	ON 7/2010	-	1	-	-	-	-	-	-	-	[a]
Aluminum, as Al	QC 9/2011	-	10	-	-	-	-	-	-	-	

[3]Skin sensitization
Form: [a]Respirable fraction [b]Metal Dust [c]Respirable

Mexico

Occupational exposure limits

Ingredient	Exposure limits
Methylcyclohexane	**NOM-010-STPS (Mexico, 9/2000).** LMPE-CT: 2000 mg/m³ 15 minutes. LMPE-CT: 500 ppm 15 minutes. LMPE-PPT: 1600 mg/m³ 8 hours. LMPE-PPT: 400 ppm 8 hours.
Aluminum	**NOM-010-STPS (Mexico, 9/2000).** LMPE-PPT: 5 mg/m³ 8 hours. LMPE-PPT: 5 mg/m³ 8 hours. Form: powder

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Engineering measures : Use only with adequate ventilation.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Respiratory : Not required for normal use of the pen/marker. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Not required for normal use of the pen/marker. Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Not required for normal use of the pen/marker. Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

8. Exposure controls/personal protection

Skin	: Not required for normal use of the pen/marker. Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

9. Physical and chemical properties

Physical state	: Solid in cylindrical form.
Flash point	: Closed cup: -3°C (26.6°F)
Burning time	: Not applicable.
Burning rate	: Not applicable.
Auto-ignition temperature	: 250°C (482°F)
Flammable limits	: Lower: 1.2% Upper: 6.7%
Color	: Silver.
Odor	: Solvent.
Taste	: Not available.
Molecular weight	: Not applicable.
Molecular formula	: Not applicable.
pH	: Not applicable.
Boiling/condensation point	: >100°C (>212°F)
Melting/freezing point	: -126°C (-194.8°F)
Critical temperature	: Not available.
Relative density	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Volatility	: 70% (w/w)
Odor threshold	: Not available.
Evaporation rate	: Not available.
SADT	: Not available.
Viscosity	: Not available.
Ionicity (in water)	: Not available.
Dispersibility properties	: Not available.
Solubility	: Insoluble in the following materials: cold water and hot water.
Partition coefficient (LogKow)	: No data available.
Physical/chemical properties comments	: Not available.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials, acids and alkalis.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

There is no data available.

Chronic toxicity

There is no data available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Methylcyclohexane	Eyes - Mild irritant Skin - Mild irritant	Rabbit Rabbit	- -	24 hours 100 µL 24 hours 500 µL	- -

Sensitizer

Skin : There is no data available.

Respiratory : There is no data available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Aluminum	A4	-	-	-	-	-

Mutagenicity

There is no data available.

Teratogenicity

There is no data available.

Reproductive toxicity

There is no data available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Methylcyclohexane	Acute LC50 5800 µg/l Marine water	Fish - Morone saxatilis - Juvenile (Fledgling, Hatchling, Weanling)	96 hours
Aluminum	Acute LC50 120 µg/l Fresh water	Fish - Oncorhynchus mykiss - Embryo	96 hours
	Chronic NOEC 9 mg/L Fresh water	Aquatic plants - Ceratophyllum demersum	3 days

Persistence/degradability

12. Ecological information

There is no data available.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT Classification	Not regulated.	-	-	-		-
TDG Classification	Not regulated.	-	-	-		-
Mexico Classification	Not regulated.	-	-	-		-
IMDG Class	Not regulated.	-	-	-		-
IATA-DGR Class	Not regulated.	-	-	-		-

PG* : Packing group Exemption to the above classification may apply. **AERG** : Not applicable.

15. Regulatory information

United States

HCS Classification : Not regulated.

U.S. Federal regulations : **TSCA 8(a) PAIR**: Methylcyclohexane
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

15. Regulatory information

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Methylcyclohexane	60 - 100	Yes.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	Aluminum	7429-90-5	10 - 30
Supplier notification	Aluminum	7429-90-5	10 - 30

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Methylcyclohexane; Aluminum

New York : None of the components are listed.

New Jersey : The following components are listed: Methylcyclohexane; Aluminum

Pennsylvania : The following components are listed: Methylcyclohexane; Aluminum

California Prop. 65

No products were found.

Canada

WHMIS (Canada) : Not controlled under WHMIS (Canada).

Canadian lists

Canadian NPRI : The following components are listed: Aluminum

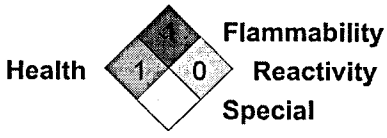
CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

Mexico

Classification :



16. Other information

Label requirements : NOT EXPECTED TO PRODUCE SIGNIFICANT ADVERSE HEALTH EFFECTS WHEN THE RECOMMENDED INSTRUCTIONS FOR USE ARE FOLLOWED.

Hazardous Material Information System (U.S.A.) : **Health :** 1 **Flammability :** 1 **Physical hazards :** 0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) : **Health :** 1 **Flammability :** 1 **Instability :** 0

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History

Date of issue mm/dd/yyyy : 03/15/2013

Version : 1

Revised Section(s) : Not applicable.

Notice to reader

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Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.