

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

Product form : Article
Trade name : DURA-INK® 15 Silver

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

Use of the substance/mixture : Marking

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

LA-CO Industries Europe S.A.S.
Parc Industriel de la Plaine de
l'Ain - Allée des Combes.
01150.BLYES.France.
Phone: +33 (0)4 74 46 23 23
Fax: +33 (0)4 74 46 23 29
E-mail: info@eu.laco.com
Web: http://www.markal.com

**1.4. Emergency telephone number**

Emergency number : 24-hour emergency: CHEMTREC- U.S. : 1-800-424-9300 International: +1-703-527-3887

EU Member State	Officieel adviesorgaan	Adres	Noodnummer
AUSTRIA	Vergiftungsinformationszentrale (Poisons Information Centre)	Allgemeines Krankenhaus Waehringer Geurtel 18-20 1090 Wien	+43 1 406 43 43
BELARUS	The Belarus Republican Poisons Centre	Kizhevatova str. 58 220115 Minsk	+375 (0)17 201 9158
BELGIUM	Centre Anti-Poisons/Antigifocentrum c/o Hôpital Central de la Base - Reine Astrid	Rue Bruyn 1 B -1120 Bruxelles/Brussel	+32 70 245 245
BULGARIA	Национален токсикологичен информационен център National Clinical Toxicology Centre, Emergency Medical Institute "Pirogov"	21 Tottleben Boulevard 1606 SOFIA	+359 2 9154 409
CROATIA	Poisons Control Centre Institute of Medical Research & Occupational Health	Ksaverska Cesta 2 P.O. Box 291 HR-10000 Zagreb	+385 1 234 8342
CZECH REPUBLIC	Toxikologické informační středisko Clinic For Occupational Medicine, 1st Medical Faculty, Charles University	Na Bojišti 1 120 00 Praha 2	+42 2 2491 9293 +42 2 2491 5402
DENMARK	Gifflinjen Bispebjerg Hospital	Bispebjerg Bakke 23, 60, 1 DK-2400 København NV	+45 82 12 12 12 +45 35 31 55 55
ESTONIA	Mürgistusteabekeskus	Gonsiori 29 15027 Tallinn	+372 626 93 90
FINLAND	Myrkytystietokeskus	P.O.B 340 (Haartmaninkatu 4) HUS SF - 00029 Helsinki	+358 9 471 977
FRANCE	ORFILA		+33 1 45 42 59 59
GERMANY	Berliner Betrieb für Zentrale Gesundheitliche Aufgaben	Oranienburger Strasse 285 13437 Berlin	+49 30 19240
GERMANY	Informations und Beratungszentrum für Vergiftungsfälle	Kirrberger Straße, Gebäude 9 D-66421 Homburg/Saar	+49 6841 19240
GERMANY	Beratungstelle bei Vergiftungen, Klinische Toxikologie und Beratungsstelle bei Vergiftungen	Langenbeckstrasse 1 55131 Mainz	+49 6131 19240
GREECE	Poisons Information Centre	11527 Athens	+30 10 779 3777
HUNGARY	Országos Kémiai Biztonsági Intézet (National Institute of Chemical Safety) Egészségügyi Toxikológiai Tájékoztató Szolgálat (Health Toxicological Information Service)	1437 Budapest PO Box 839 1097 Budapest, Nagyváradi tér 2	+36 80 20 11 99
ICELAND	Eitrunarmiðstöðin	Eitrunarmiðstöðin 108 Reykjavik	+354 543 22 22
IRELAND	National Poisons Information Centre	Beaumont Hospital PO Box 1297 Beaumont Road 9 Dublin	+353 1 809 2166
LATVIA	Valsts Toksikoloģijas centra Saindēšanās un zāļu informācijas centrs	2 Hipocrate Street LV 1038 Riga	+371 67 04 24 73

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

LITHUANIA	Apsinuodijimų kontrolės ir informacijos biuras	Siltnamiu 29 2043 Vilnius	+370 5 236 20 52/+370 687 53 378
MALTA	Medicines & Poisons Info Office	Mater Dei Hospital, Msida MSD 2090 Malta	25450000
NETHERLANDS	Nationaal Vergiftigingen Informatie Centrum National Institute for Public Health and the Environment, NB this service is only available to health professionals	Huispostnummer B.00.118, PO Box 85500 3508 GA Utrecht	+31 30 274 88 88
PORTUGAL	Centro de Informação Antivenenos Instituto Nacional de Emergência Médica (INEM)	Rua Almirante Barroso, 36 1000-013 Lisboa	808 250 143 (for use only in Portugal), +351 21 330 3284
ROMANIA	Biroul pentru Regulamentul Sanitar International si Informare Toxicologica	Str. Dr. Leonte Anastasievici Nr.1-3, Sector 5 50463 Bucuresti	+40 21 318 36 06
SLOVAKIA	Národné toxikologické informačné centrum University Hospital Bratislava	Limbová 5 833 05 Bratislava	+421 2 54 77 4 166
SPAIN	Servicio de Información Toxicológica Instituto Nacional de Toxicología, Departamento de Madrid	Calle Luis Cabrera 9 E-28002 Madrid	+34 91 562 04 20
SWEDEN	Giftinformationscentralen Swedish Poisons Information Centre, Karolinska Hospital	Box 60 500 SE-171 76 Stockholm	+46 8 33 12 31 (International) 112 (National)
SWITZERLAND	Centre Suisse d'Information Toxicologique	Freiestrasse 16 Postfach CH-8028 Zurich	+41 44 251 51 51 (International) 145 (National)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

Adverse physicochemical, human health and environmental effects

No additional information available

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

EUH-statements : EUH210 - Safety data sheet available on request

2.3. Other hazards

PBT: not yet assessed

vPvB: not yet assessed

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Methylcyclohexane	(CAS No) 108-87-2 (EC no) 203-624-3 (EC index no) 601-018-00-7	70 - 75	Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411
aluminium powder (stabilised)	(CAS No) 7429-90-5 (EC no) 231-072-3 (EC index no) 013-001-00-1	10 - 15	Flam. Sol. 1, H228 Water-react. 2, H261

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person.
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
First-aid measures after skin contact	: Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: In case of contact, immediately flush eyes with plenty of water.

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

First-aid measures after ingestion : Immediately call a POISON CENTER or doctor/physician. Do NOT induce vomiting.

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

Symptoms/injuries after inhalation : May cause drowsiness or dizziness.
Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Water spray.
Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapour.
Explosion hazard : May form flammable/explosive vapour-air mixture.

5.3. Advice for firefighters

Firefighting instructions : In case of fire: stop leak if safe to do so.
Protection during firefighting : Wear a self contained breathing apparatus. Wear fire/flame resistant/retardant clothing. EN469.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Remove ignition sources. Use special care to avoid static electric charges. No open flames. No smoking. Avoid all eye and skin contact and do not breathe vapour and mist.

6.1.1. For non-emergency personnel

Protective equipment : Wear suitable gloves. Chemical goggles or safety glasses.
Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Wear suitable gloves. Chemical goggles or safety glasses.
Emergency procedures : Ventilate area. Stop leak if safe to do so.

6.2. Environmental precautions

Avoid release to the environment. Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

For containment : Absorb and/or contain spill with inert material, then place in suitable container.
Methods for cleaning up : Take up in non-combustible absorbent material and shove into container for disposal.

6.4. Reference to other sections

Section 13: disposal information. Section 7: safe handling. Section 8: personal protective equipment.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Handle empty containers with care because residual vapours are flammable.
Precautions for safe handling : No open flames. No smoking. Use only non-sparking tools. Use only outdoors or in a well-ventilated area. Avoid all eye and skin contact and do not breathe vapour and mist.
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical, lighting, ventilating equipment.
Storage conditions : Keep in fireproof place. Keep container tightly closed.
Incompatible products : Strong oxidizers.
Incompatible materials : Heat sources.
Heat and ignition sources : Keep away from heat, sparks and flame.
Prohibitions on mixed storage : Incompatible materials.
Storage area : Store in dry, cool, well-ventilated area.

7.3. Specific end use(s)

Marking.

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

aluminium powder (stabilised) (7429-90-5)		
Belgium	Limit value (mg/m ³)	1 mg/m ³
Belgium	Remark (BE)	(Aluminium, métal et composés insolubles, fraction alvéolaire)
Denmark	Grænseværdie (kortvarig) (mg/m ³)	4 mg/m ³ (respirabel) 10 mg/m ³ (total)
Finland	HTP-arvo (8h) (mg/m ³)	2 mg/m ³
Finland	Huomautus (FI)	(Alumiini, liukoiset yhdisteet)
France	VME (mg/m ³)	5 mg/m ³ (pulvérulent) 10 mg/m ³ (metal)
Germany	TRGS 903 (BGW)	200 µg/l
Germany	Remark (TRGS 903)	Aluminium (Urin; Expositionsende bzw. Schichtende)
Hungary	Megjegyzések (HU)	(respirabilis por)
Ireland	OEL (8 hours ref) (mg/m ³)	1 mg/m ³
Ireland	Notes (IE)	(respirable dust)
Lithuania	IPRV (mg/m ³)	2 mg/m ³ (alveoline frakcija) 1 mg/m ³ (Aliuminis (metalas) ir jo tirpus junginiai, kaip Al) 5 mg/m ³ (ákvepiamoji frakcija)
Netherlands	Grenswaarde TGG 8H (mg/m ³)	10 mg/m ³
Poland	NDS (mg/m ³)	2.5 mg/m ³ (dymy, pyl calkowity) 1.2 mg/m ³ (dymy, pyl respirabilny)
Slovakia	NPHV (priemerná) (mg/m ³)	2 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	60 µg/g creatinine (Hlinik, M,a) 25 µg/g creatinine (Celkový, M,,d) 150 µg/g creatinine (Celkový,M,b)
Spain	VLA-ED (mg/m ³)	10 mg/m ³ (inhalable aerosol) 5 mg/m ³ (respirable aerosol)
Sweden	nivågränsvärde (NVG) (mg/m ³)	1 mg/m ³ (Aluminium, lösliga föreningar, som Al) 5 mg/m ³ (totaldamm, som Al) 2 mg/m ³ (respirabelt damm, som Al)
United Kingdom	WEL TWA (mg/m ³)	10 mg/m ³ (inhalable dust) 4 mg/m ³ (respirable dust)
Norway	Merknader (NO)	(Aluminiumpulver, pyroteknikk)
Switzerland	VME (mg/m ³)	3 mg/m ³
Switzerland	Remark (CH)	(alveolengängiger Staub)
Methylcyclohexane (108-87-2)		
Czech Republic	Remark (CZ)	I
Denmark	Grænseværdie (kortvarig) (mg/m ³)	1610 mg/m ³
Denmark	Grænseværdie (kortvarig) (ppm)	400 ppm
Slovakia	NPHV (priemerná) (mg/m ³)	810 mg/m ³
Slovakia	NPHV (priemerná) (ppm)	200 ppm
United Kingdom	WEL TWA (mg/m ³)	800 mg/m ³
United Kingdom	WEL TWA (ppm)	196 ppm
Switzerland	VLE (ppm)	800 ppm

8.2. Exposure controls

Appropriate engineering controls	: Avoid splashing. Ensure good ventilation of the work station.
Hand protection	: Wear suitable gloves. nitrile rubber gloves. EN374.
Eye protection	: Chemical goggles or safety glasses. EN166.
Skin and body protection	: Wear suitable protective clothing.
Respiratory protection	: In case of inadequate ventilation wear respiratory protection. Approved respirator. EN 12083.
Environmental exposure controls	: Prevent leakage or spillage. Prevent contaminated water run-off.
Other information	: Do not eat, drink or smoke when using this product.

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Solid marker containing liquid colored paint.
Colour	: Silver.
Odour	: slight.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: -126 °C
Boiling point	: > 100 °C
Flash point	: -3 °C
Auto-ignition temperature	: 250 °C
Decomposition temperature	: No data available
Flammability (solid, gas)	: Highly flammable liquid and vapour
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: 0.8 - 1.2
Solubility	: insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: 10 cSt @ 40 °C
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1.2 - 6.7 vol %

9.2. Other information

VOC content	: 75 %
-------------	--------

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

Highly flammable liquid and vapour. May form flammable/explosive vapour-air mixture.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

Open flame. Direct sunlight. Heat.

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

May release flammable gases. Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

DURA-INK® 15 Silver	
LD50 oral rat	> 7000 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 5000 mg/kg
aluminium powder (stabilised) (7429-90-5)	
LD50 oral rat	> 15900 mg/kg
LC50 inhalation rat (mg/l)	> 2.3 mg/l/4h

Skin corrosion/irritation : Not classified.

Serious eye damage/irritation : Not classified

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified.
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

DURA-INK® 15 Silver	
LC50 fish 1	> 1 ppm
aluminium powder (stabilised) (7429-90-5)	
LC50 fish 1	> 218.64 mg/l ASTM 2000; test material: aluminium chloride hexahydrate; Pimephales promelas
EC50 Daphnia 1	1.4 mg/l OECD Guideline 202; test material: Aluminium hydroxide
LOEC (acute)	72.89 mg/l
NOEC (acute)	37.2 mg/l

12.2. Persistence and degradability

DURA-INK® 15 Silver	
Persistence and degradability	May cause long-term adverse effects in the environment.

12.3. Bioaccumulative potential

Methylcyclohexane (108-87-2)	
Bioaccumulative potential	Not expected to bioaccumulate.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

DURA-INK® 15 Silver	
PBT: not yet assessed	
vPvB: not yet assessed	

12.6. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Additional information	: Handle empty containers with care because residual vapours are flammable.
Ecology - waste materials	: Hazardous waste due to toxicity.
European List of Waste (LoW) code	: For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used 20 01 27* - paint, inks, adhesives and resins containing dangerous substances

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

H code	: H14 - 'Ecotoxic': waste which presents or may present immediate or delayed risks for one or more sectors of the environment H5 - 'Harmful': substances and preparations which, if they are inhaled or ingested or if they penetrate the skin, may involve limited health risks H4 - 'Irritant': non-corrosive substances and preparations which, through immediate, prolonged or repeated contact with the skin or mucous membrane, can cause inflammation H3-A - 'Highly flammable' : — liquid substances and preparations having a flash point below 21 °C (including extremely flammable liquids), or — substances and preparations which may become hot and finally catch fire in contact with air at ambient temperature without any application of energy, or — solid substances and preparations which may readily catch fire after brief contact with a source of ignition and which continue to burn or to be consumed after removal of the source of ignition, or — gaseous substances and preparations which are flammable in air at normal pressure, or — substances and preparations which, in contact with water or damp air, evolve highly flammable gases in dangerous quantities
--------	---

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

Not considered a dangerous good for transport regulations

14.2. UN proper shipping name

Proper Shipping Name (ADR) :

14.3. Transport hazard class(es)

Not applicable

14.4. Packing group

Not applicable

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

14.6.1. Overland transport

No additional information available

14.6.2. Transport by sea

No additional information available

14.6.3. Inland waterway transport

Carriage prohibited (ADN) : No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

VOC content : 75 %

15.1.2. National regulations

Germany

Water hazard class (WGK) : 3 - severe hazard to waters

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

according to Regulation (EU) 2015/830

Abbreviations and acronyms:

DURA-INK® 15 Silver

Safety Data Sheet

according to Regulation (EU) 2015/830

	ACGIH (American Conference of Government Industrial Hygienists)
	CAS (Chemical Abstracts Service) number
	CLP: Classification, Labelling, Packaging.
	GHS: Globally Harmonized System (of Classification and Labeling of Chemicals).
	OSHA: Occupational Safety & Health Administration
	PBT: Persistent, Bioaccumulative, Toxic
	TSCA: Toxic Substances Control Act

Data sources : ESIS (European chemical Substances Information System; accessed at: <http://esis.jrc.ec.europa.eu/index.php?PGM=cla>.
European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>.
Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition.
National Fire Protection Association. Fire Protection Guide to Hazardous Materials; 10th edition.
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006.

Other information : None.

Full text of R-, H- and EUH-statements:

Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Asp. Tox. 1	Aspiration hazard, Category 1
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Sol. 1	Flammable solids, Category 1
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Narcosis
Water-react. 2	Substances and Mixtures which, in contact with water, emit flammable gases, Category 2
H225	Highly flammable liquid and vapour
H228	Flammable solid
H261	In contact with water releases flammable gases
H304	May be fatal if swallowed and enters airways
H315	Causes skin irritation
H336	May cause drowsiness or dizziness
H411	Toxic to aquatic life with long lasting effects
EUH210	Safety data sheet available on request

LA-CO EU CLP SDS

SDS Prepared by: The Redstone Group, LLC
6077 Frantz Rd.
Suite 206
Dublin, OH USA 43016
T 614-923-7472
www.redstonegrp.com

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product