

SAFETY DATA SHEET

Product: Litargírio

Revision: 00

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1- IDENTIFICATION

Product identifier	Litargírio Internal code: 2010, 2020, 2030, 2040, 2050, 2060, 2080, 9040, 9050, 9060, 9080.
Recommended use of the chemical and restrictions on use:	Lead salts and PVC additives, pigments for paints, ceramic chips, drying, compounds mining, rubber and glass techniques.
Manufacturer's name:	DUROX PRODUTOS QUÍMICOS LTDA
Address:	Av. Brasil, 4633 Caixa Postal 69 CEP 13.500-970 Rio Claro SP
Telephone number:	(19) 3522-2239 / 3522-2259 / 5561-2125 / 5542-3344
Emergency telephone number:	SUATRANS - 0800-707-7022

2- HAZARDS IDENTIFICATION

Classification of the chemical:	Carcinogenicity – Category 1B Reproductive toxicity – Category 1A Specific target organ toxicity – repeated exposure – Category 1
Signal Word:	DANGER
Hazard statement(s):	H350 May cause cancer. H360 May damage fertility or the unborn child. H372 Causes damage to the blood system, bone marrow, nervous system and kidneys Repeated or prolonged exposure.

Symbol(s):



Precautionary statement(s):	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and
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understood.

P260 Do not breathe dust.

P264 Wash hands thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P308 + P313 IF exposed or concerned: Get medical advice/attention.

P405 Store locked up.

P501 Dispose of contents/container to in accordance with local regulation.

Classification system adopted: Globally Harmonized System of Classification and Labeling of Chemicals (GHS), United Nations.

Other hazards which do not result in classification: The product does not have any other hazards.

3- COMPOSITION/INFORMATION ON INGREDIENTS**SUBSTANCE**

Chemical name: Lead oxide

Common name and synonyms: Litharge; Massicot; Lead monoxide; Lead (II) oxide; Plumbs oxide.

CAS number and other unique identifiers; 1317-36-8

Impurities and stabilizing additives contributing to the hazard (%m): There are no impurities or stabilizing additives that contribute to the hazard.

4- FIRST-AID MEASURES**Description of first aid measures**

Inhalation: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Contact a POISON CENTER or a doctor if you feel

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unwell. Take this SDS

Skin contact:

Wash exposed skin with enough water to remove the material. In case of irritation: Consult a doctor. Take this SDS.

Eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do and rinse again. If eye irritation persists: Consult a doctor. Take this SDS.

Ingestion:

Do not induce vomiting. Rinse the victim's mouth with water. Never give anything by mouth to an unconscious person. Contact a POISON CENTER or a doctor if you feel unwell. Take this SDS.

Most important symptoms and effects, acute and delayed:

Can cause cancer and damage fertility or the unborn child. May cause gastrointestinal irritation accompanied by nausea, vomiting, metallic taste, loss of appetite, weight loss, colic and muscle cramps. May cause irritation to the respiratory tract with coughing and sore throat. Repeated or prolonged exposure causes damage to the circulatory system, bone marrow, kidneys and nervous system causing anemia, encephalopathy, peripheral nerve disease, renal failure and abdominal cramping.

Indication of any immediate medical attention and special treatment needed:

Avoid contact with the product to help the victim. Keep victim warm and quiet. Symptomatic treatment should comprise mainly supportive measures such as correction of electrolyte disturbances, metabolic, and respiratory support. In case of contact with the product do not rub the affected site.

5- FIRE-FIGHTING MEASURES

Extinguishing media:

Appropriate: Compatible with water fog, foam and chemical powder.
Not recommended: Halogenated product and water jets directly.

Specific hazards arising from the chemical product:

The combustion of the chemical products or containers may form toxic and irritating gases such as carbon monoxide and carbon dioxide, lead toxic products and lead oxide.

Special equipment for the protection of firefighters:

Self-contained breathing apparatus (SCBA) operated in positive pressure mode and complete protective clothing.

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6- ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel:	Do not smoke. Avoid contact with the product. Do not touch damaged containers or spilled material without the use of appropriate clothing. Use personal protective equipment as described in Section 8.
For emergency responders:	Use Full PPE, safety glasses or face shield, PVC protective gloves, closed shoes, safety clothing and dust mask with mechanical filter class P2.
Environmental precautions:	Avoid spillage reaches watercourses and sewerage systems.
Methods and materials for containment and cleaning up:	Do not allow water ingress into the containers. Use water mist or vapor suppressing foam to reduce the dispersion of the vapors. Collect the product with a clean shovel or other instrument that does not disperse the product. Put material in suitable containers and remove them to a safe place. For disposal, proceed according to Section 13 of this SDS
Differences in the action of large and small leaks:	There is no distinction between the actions of large and small leaks for this product.

7- HANDLING AND STORAGE

Precautions for safe handling:	Handle in a well-ventilated area or with general system of ventilation/local exhaust. Avoid dusts formation. Avoid exposure to the product. Avoid contact with incompatible materials. Use personal protective equipment as indicated in Section 8. Wash hands and face thoroughly after handling and before eating, drinking, smoking or going to the bathroom. Contaminated clothing should be changed and washed before reuse. Remove clothing and protective equipment contaminated before entering eating areas.
Conditions for safe storage, including any incompatibilities:	Store in a well ventilated place away from sunlight. Keep container closed. Keep stored at room temperature not exceeding 35°C. Keep away from high temperatures, sources of ignition and incompatible materials. Recommended packaging materials: Similar to original packaging

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8- EXPOSURE CONTROLS AND PERSONAL PROTECTION**Control parameters:**

Occupational exposure limit:	Chemical or common name	TLV – TWA (ACGIH, 2014)	REL – TWA (NIOSH, 2010)	PEL – TWA (OSHA, 2006)
	Lead	0.05 mg ³	0.05 mg/m ³	0.05 mg/m ³

Biological limit:

-Lead:
BEI (ACGIH, 2014):
Blood lead: 30 µg/100 ml.

Note: Women of childbearing age, whose lead in their blood exceeding 10 µg/100ml are at risk of fathering a child with lead in their blood above the level considered safe by the Disease Control Center, which is 10µ/mL. If the lead level in the blood of this child remain high, it may be at an elevated risk of having cognitive deficits. Lead in the blood of these children must be carefully monitored and control measures must be taken to minimize environmental exposure to lead such children. (CDC: Preventing Lead poisoning in Young Children, October 1991).

Other limits and values:

-Lead:
IDLH (NIOSH,2010): 100 mg/m³

Appropriate engineering controls:

Promote direct mechanical ventilation and exhaust system to the outside environment. These measures help reduce exposure to product. Maintain atmospheric concentrations of the constituents of the product below occupational exposure limits indicated.

Individual protection measures, such as personal protective equipment:

Eye/face protection: Safety glasses or face shield

Skin protection: PVC protective gloves, closed shoes and safety clothing for the whole body protection to avoid contact with the product.

Respiratory protection: Dust mask with mechanical filter class P2.

Thermal hazards: It does not presents thermal hazards.

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Environmental exposure control:	The dilution water from the fire-fighting may cause pollution
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9- PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Appearance (physical state, color, etc.):	Yellowish green, yellow, amorphous solid powder,
Odor:	Odorless.
Odor threshold:	Not available.
pH:	Strongly basic.
Melting point/freezing point:	886°C.
Initial boiling and boiling range:	Not available.
Flash point:	Not available.
Evaporation rate:	Not available.
Flammability (solid, gas):	Not available.
Upper/ lower flammability or explosive limits:	Not available.
Vapor pressure:	Not available.
Vapor density:	Not available.
Relative density:	9.5 to 20°C.
Solubility(ies):	In water 17.2 mg/L to 20°C. Soluble in acetic acid, nitric acid with H ₂ O ₂ , hot alkaline solutions.
Partition coefficient: n-octanol/water	Log Kow: 0.73 (estimated).
Auto-ignition temperature:	Not available.
Decomposition temperature:	Not available.

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Viscosity:	Not available.
Other information:	Density: 9.5 g/cm ³ to 20°C.

10- STABILITY AND REACTIVITY

Reactivity:	It is not expected that the product shows reactivity potential.
Chemical stability:	Product is stable under normal conditions of temperature and pressure
Possibility of hazardous reactions:	There are no known hazardous reactions with respect to the product.
Conditions to avoid:	High temperatures. Contact with incompatible materials.
Incompatible materials:	Acids.
Hazardous decomposition products:	The decomposition may release lead and/or lead oxide.

11- TOXICOLOGICAL INFORMATION

Acute toxicity:	Lead is considered toxic effects based on evidence in humans.
Skin irritation/corrosion:	It is not expected that the product cause skin irritation.
Eye damage/irritation:	It is not expected that the product causes eye irritation.
Respiratory or skin sensitization:	It is not expected that the product causes respiratory or skin sensitization.
Reproductive cell mutagenicity:	It is not expected that the product present reproductive cell mutagenicity.
Carcinogenicity:	May cause cancer. Information regarding to <u>- Lead:</u> Probably carcinogenic to humans (Group 2A - IARC). Studies have shown that the lead can cause cancer to the lungs, brain, stomach and kidney.
Reproductive toxicity:	May damage fertility or the unborn child.

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Studies in animals have shown teratogenic effects in males and females. We observed decreased fertility and damage the developing fetus and testicles.

Specific target organ toxicity
– single exposure:

May cause gastrointestinal irritation matched by nausea, vomiting, metallic taste, loss of appetite, weight loss, colic and muscle cramps. May cause slight irritation to the respiratory tract with coughing and sore throat

Specific target organ toxicity
– repeated exposure:

Causes damage to the circulatory system, bone marrow, kidneys and nervous system by repeated or prolonged exposure causing anemia, encephalopathy, peripheral nerve disease, renal failure and abdominal cramping.

Aspiration hazard:

It is not expected that the product present aspiration hazard.

12- ECOLOGICAL INFORMATION

Ecotoxicity:

It is not expected that the product present ecotoxicity.

Persistence and degradability:

Due to the lack of data, it is expected that the product present persistence and it is not considered readily biodegradable

Bioaccumulative potential:

It is not expected that the product present bioaccumulative potential in aquatic organisms.

BCF: 0.73 (estimated)

Log Kow: 3.162 (estimated)

Mobility in soil:

It is expected low mobility in soil.

Other adverse effects:

There are no known adverse environmental effects for this product.

13- DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

Must be disposed of as hazardous waste in compliance with local regulations. The treatment and disposal should be evaluated for each specific product. Keep the product remains in its original and properly closed. Disposal should be performed as established for the product. Do not reuse empty containers. These may contain product residues and should be kept closed and sent for proper disposal as established

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for the product.

14- TRANSPORT INFORMATION**International regulations**

Land: UN - "United Nations"
Recommendations on the TRANSPORT OF DANGEROUS GOODS.
Model Regulations

UN number: 2291

UN proper shipping name: LEAD COMPOUND, SOLUBLE, N.O.S.

Transport hazard class(es) 6.1

Packing group: NA

Sea: IMO – International Maritime Organization
International Maritime Dangerous Goods Code (IMDG Code)

UN number: 2291

UN proper shipping name: LEAD COMPOUND, SOLUBLE, N.O.S.

Transport hazard class(es) 6.1

Packing group: III

Environmental hazards: Marine pollutant: Y

EmS: F-A, S-A

Air: IATA - International Air Transport Association
Dangerous Goods Regulation (DGR)

UN number: 2291

UN proper shipping name: LEAD COMPOUND, SOLUBLE, N.O.S

Transport hazard class(es) 6.1

Packing group: III

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Environmental hazards	The product is considered a marine pollutant.
Transport in bulk according to MARPOL 73/78, Annex II, and the IBC Code:	<p>Consult regulations:</p> <ul style="list-style-type: none"> - International Maritime Organization. MARPOL: Articles, protocols, annexes, unified interpretations of the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, consolidated edition. IMO, London, 2006. - International Maritime Organization. IBC code: International code for the construction and equipment of shipping carrying dangerous chemicals in bulk: With Standards and guidelines relevant to the code. IMO, London, 2007.
Special precautions:	There is no need of special precautions.

15- REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture:	<p>International Labor Organization C170 Chemicals Convention, from June 25th, 1990: Occupational Safety and Health – Toxic Substances and Agents.</p> <p>Hazard Communication Standard (HCS) 29 CFR: 1910.1200 - Appendix A,B,C,D, E,F.</p>
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16- OTHER INFORMATION

This SDS was prepared based on current knowledge about the proper product handling and under normal conditions of use, in accordance with the application specified on the packaging. Any other use of the product involving their combination with other materials, and use various forms of those indicated, are the responsibility of the user. Warns that the handling of any chemical substance requires the prior knowledge of its hazards for the user. In the workplace it is for the user company's product promotes training of its collaborators about the possible risks arising from exposure to the chemical.

SDS elaborated in August. 2015

Abbreviations :

ACGIH – American Conference of Governmental Industrial Hygienists

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BEI – Biological Exposure Indices**BCF** – Bioconcentration Factor**CAS** – Chemical Abstracts Service**IDLH** – Immediately Dangerous to Life or Health**NA** – Not Applicable**NIOSH** – National Institute for Occupational Safety and Health**OSHA** – Occupational Safety and Health Administration**PEL** – Permissible Exposure Limits**REL** – Recommended Exposure Limits**TLV** – Threshold Limit Value**TWA** – Time Weighted Average**Bibliographic references:**

ACGIH - AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS. Available at: <<http://www.acgih.org/TLV/>>. Access in: Aug. 2015.

DUROX PRODUTOS QUÍMICOS LTDA – *FISPQ* – *Ficha de Informações de Segurança de Produtos Químicos* – Litargírio. Rev. 10. Março. 2013. Brasil.

ECB - EUROPEAN CHEMICALS BUREAU. Diretiva 67/548/EEC (substâncias); Diretiva 1999/45/EC (preparações). Available at: <<http://ecb.jrc.it/>>. Access in: Aug. 2015.

EPA USA. 2011. EPI Suite™ for Microsoft® Windows, v 4.10. United States: Environmental Protection Agency, Washington. 2011. Available at: <<http://www.epa.gov/oppt/exposure/pubs/episuite.htm>>. Access in: Aug. 2015.

HSDB - HAZARDOUS SUBSTANCES DATA BANK. Available at: <<http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?HSDB>>. Access in: Aug. 2015.

IARC - INTERNATIONAL AGENCY FOR RESEARCH ON CANCER. Available at: <<http://monographs.iarc.fr/ENG/Classification/index.php>>. Access in: Aug. 2015.

IPCS - INTERNATIONAL PROGRAMME ON CHEMICAL SAFETY – INCHEM. Available at: <<http://www.inchem.org/>>. Access in: Aug. 2015.

IUCLID - INTERNATIONAL UNIFORM CHEMICAL INFORMATION DATABASE. [S.I.]: European chemical Bureau. Available at: <<http://ecb.jrc.ec.europa.eu>>. Access in: Aug. 2015.

NIOSH - NATIONAL INSTITUTE OF OCCUPATIONAL AND SAFETY. International Chemical Safety Cards. Available at: <<http://www.cdc.gov/niosh/>>. Access in: Aug. 2015.

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OSHA – OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION. Available at: <<https://www.osha.gov/dsg/hazcom/index.html>>. Access in: Aug.2015

REACH - REGISTRATION, EVALUATION, AUTHORIZATION AND RESTRICTION OF CHEMICALS. Amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals Available at: <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:164:0007:0031:EN:PDF>>.Access in; Aug. 2015.

SIRETOX/INTERTOX - SISTEMA DE INFORMAÇÕES SOBRE RISCOS DE EXPOSIÇÃO QUÍMICA. Available at: <<http://www.intertox.com.br>>. Access in: Aug. 2015.

TOXNET - TOXICOLOGY DATA NETWORKING. ChemIDplus Lite. Available at: <<http://chem.sis.nlm.nih.gov/>>. Access in: Aug. 2015.
