

MATERIAL SAFETY DATA SHEET

Date of issue: 10.09.2004
Reviewed on: 01.12.2009 – 6th Edition

LITEN

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE (PREPARATION) AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance / mixture (preparation)

Commercial name: Liten

Chemical name: Polyethylene (PE-HD)

ethylene homopolymer (CAS No. 9002-88-4)

ethylene butene copolymer (CAS No. 25087-34-7)

ethylene hexene copolymer (CAS No. 25213-02-9)

ethylene propylene copolymer (CAS No. 9010-79-1)

Registration number: not applicable (not subject to registration in accordance with Chapter I, Article 2, clause 9)

1.2 Use of the substance / mixture (preparation)

Production of household goods and articles for technical purposes (e.g. films, packaging, containers, textile fibres, cloth tapes).

1.3 Company / undertaking identification

■ UNIPETROL RPA, s.r.o., Záluží 1, 436 70 Litvínov, Czech Republic

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1.4 Emergency telephone numbers in case of accident

- UNIPETROL RPA, s.r.o. ☎: +420 476 163 111 (non stop)
☎: +420 476 162 111 (non stop)
- CENTRE OF THE CZECH MINISTRY OF HEALTH
Toxicological Information Centre Prague (TIS), CZ ☎: +420 224 919 293 (non stop)
Na bojišti 1, 128 08 Praha 2, Czech Republic ☎: +420 224 915 402 (non stop)
e-mail: tis@mbox.cesnet.cz
fax: +420 224 914 570

2. HAZARD IDENTIFICATION

2.1 Classification of the substance / mixture (preparation)

Product is not classified as dangerous according to the Czech Act No. 356/2003 Sb. and Regulation (EC) No 1272/2008 (Directive 67/548/EEC or Directive 1999/45/EC).

2.2 Information pertaining to particular dangers for human

Product does not have any acute or chronic adverse effect on human health under ordinary handling conditions. Under incautious handling only mechanical irritation of eyes or skin may occur. Dust inhalation may irritate respiratory system.

2.3 Information pertaining to particular dangers for the environment

No adverse environmental effects.

2.4 Other adverse effects

Flammable, but hardly ignitable substance. When burning, substance decomposes thermally under creation of dangerous substances. Dust is explosive. Product may be charged electrostatically.

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Polyethylene (homopolymer, copolymers) is not a dangerous substance and it does not contain any hazardous ingredients in concentrations above permitted limits or substances with exposure limits defined by EC.

4. FIRST AID MEASURES

4.1 General advice

In case of health troubles or doubts, seek medical advice and show this Material Safety Data Sheet.

4.2 Inhalation

In case of dust inhalation remove patient to fresh air.

SYMPTOMS AND EFFECTS: dust inhalation may irritate respiratory system.

4.3 Skin contact

First aid is usually not required, observing common personal hygienic regulations are sufficient. After contact with hot product do not try to remove it from skin, cool burned area under cold water stream and seek medical advice.

SYMPTOMS AND EFFECTS: under incautious handling only mechanical irritation of skin may occur

4.4 Eye contact

In case of dust intrusion into eyes, flush eyes with water or remove the dust like other mechanical contamination.

SYMPTOMS AND EFFECTS: under incautious handling only mechanical irritation of eyes may occur

4.5 Swallowing

In case of swallowing big amounts, medical treatment is necessary.

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Foam, powder, in case of large fire water spray.

5.2 Extinguishing media to be avoided

Water jet.

5.3 Caution about specific danger in case of fire and fire-fighting procedures

When burning can create carbon monoxide and other dangerous fumes (see chapter 10.3).

5.4 Special protective equipment for fire fighters

Wear full protective clothing and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1 Person-related safety precautions

Mind spilled granules – may cause slipping and fall.

6.2 Precautions for protection of the environment

Do not flush spilled material into drains.

6.3 Recommended methods for cleaning and disposal

Sweep up spilled material and place into suitable dry container for further treatment or later disposal. Dispose of under valid legal waste regulations.

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7. HANDLING AND STORAGE

7.1 Information for safe handling

Observe all fire-fighting measures and wear recommended personal protective equipment. Avoid leak to the environment.

7.2 Information for storage

Storing facilities shall meet the requirements for the fire safety of constructions and electrical facilities and should be in conformity with valid regulations. Avoid contact with incompatible materials, open flame and high temperature. To maintain product quality, store away from moisture and direct sunlight. We recommend to store in dry, ventilated, roofed storing facility, the premises of which are protected against direct sunlight or above-mentioned conditions to replace by another suitable way (tightly closed containers or packaging). Recommended range of storage temperatures is -20 °C to +30 °C. At below-zero temperatures, it is necessary to pay increased attention to handling of the product. The product distance from any source of heat shall be at least one meter. When transporting the product from the storage facility, the products stored for longest time are taken as the first. The packed units shall be designated properly and visibly, so that mistaken identification of the goods is excluded. The recommended storage time for product in closed (sealed) bags at defined storage conditions is maximum one year. At longer storage time it is recommended to check the material properties prior to processing. Avoid leak to the environment.

7.3 Information for specific use

Not applicable.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limit values

Czech Republic (Order-in-Council No 361/2007 Sb.):

Name	PEL_r [mg.m ⁻³]	PEL_c [mg.m ⁻³]
polyethylene	-	5
polymeric material dust	-	5
carbon black	-	2

PEL_r Permissible exposure level for respirable dust

PEL_c Permissible exposure level for total dust concentration

European Union (Directive 2006/15/EC): no limits set

Recommended determination method in the workplace atmosphere for dust: gravity surveying, dust meter.

8.2 Occupational exposure controls

Collective protection measures

General and local ventilation, in case of dust effective exhaust, hermetisation.

Individual protection measures

Personal protective equipment (PPE) for the protection of eyes, hands and skin corresponding with the performed labour has to be kept at disposition for the employees. In cases, where the workplace exposure control limits cannot be observed with the help of technical equipment or where it is not possible to ensure that the respiratory system exposure does not represent a health hazard for the personnel, adequate respiratory protection have to be kept at disposition. During work requiring continuous PPE use, according to the used type of protective equipment, it is necessary to allow employees to remove the PPE and stay in a surrounding without danger factors exceeding exposure limits. All PPE have to be kept in disposable state and the damaged or contaminated equipment has to be replaced immediately.

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RECOMMENDED PERSONAL PROTECTIVE EQUIPMENT (PPE):

- *respiratory protection*: anti-dust respirator, in case of fire self-contained breathing apparatus
- *eye protection*: safety goggles
- *hand protection*: protective gloves

	<i>glove material</i>	<i>layer thickness</i>	<i>breakthrough time</i>
routine work (possibility of staining)	natural latex	1 mm	480 min.
outflow / accident disposal	nitrile	0,4 mm	480 min.

The protective gloves to be used must comply with the specifications of EC directive 89/686/EEC and the resultant standard EN374, for example KCL 395 Combi Latex (splash contact) and 730 Camatril®Velours (outflow). The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types. The recommended time applies to the product stated in the safety data sheet as well as to the purpose specified here. Under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL CZ s.r.o., Suderova 2013, 709 00 Ostrava 9, www.klc.de.)

- *skin protection*: protective coveralls, sealed footwear
- *general safety and hygienic measures*: Observe personal hygienic regulations. Do not eat, drink or smoke during work! Wash thoroughly hands and uncovered body parts with soap and water after handling and before eating or drinking, and treat skin with a mild skin restoring cream.

8.3 Environmental exposure controls

Proceed in accordance with valid air and water legislative regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

- *Physical state at 20 °C*: solid
- *Colour*: colourless, black
- *Odour*: odourless

9.2 Important health, safety and environmental information

- *pH-value*: not applicable
- *Boiling point [°C]*: not applicable
- *Flash point (granules)[°C]*: 370
- *Inflammability*: flammable
- *Lower explosion limit (dust) [g.m⁻³]*: 100
- *Oxidising properties*: not applicable
- *Vapour pressure at 20 °C [kPa]*: not applicable
- *Density [kg.m⁻³]*: 940 - 963
- *Solubility*: not applicable
- *Solubility in water at 20°C [g.l⁻¹]*: insoluble
- *Partition coefficient n-octanol/ water [log Kow]*: not applicable
- *Viscosity at 20°C [mPa.s]*: not applicable
- *Vapour density (air=1)*: not applicable
- *Evaporation rate*: not applicable

9.3 Other information

- *Melting point (granules) [°C]*: ca. 130
- *Ignition temperature (granules) [°C]*: 390 - 400
- *Ignition temperature of settled dust [°C]*: 350
- *Ignition temperature of turbid dust [°C]*: 445

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- Minimal initiatory ignition energy [J]: 1,6
- Combustion heat [MJ.kg⁻¹]: 45 - 46
- Bulk density (granulate) [kg.m⁻³]: 520 - 580
- Bulk density (stab. powder) [kg.m⁻³]: 370 - 520

10. STABILITY AND REACTIVITY

10.1 Conditions to avoid

Substance itself is at normal temperature non-reactive. Product may be charged electrostatically.
Conditions to avoid: high temperature, sparks, naked flame.

10.2 Material to avoid

Oxidizing agents, liquid chlorine, other free halogens, aromatic and chlorinated hydrocarbons, petrol, lubricants.

10.3 Hazardous decomposition products

Thermal decomposition: at high temperatures creation of substances with irritant or sensitisation effects possible.

11. TOXICOLOGICAL INFORMATION

11.1 Acute effects

Substance does not have any acute or chronic adverse effect on human health under normal handling conditions.
Under incautious handling only mechanical irritation of eyes or skin may occur. Dust inhalation may irritate respiratory system.

Acute toxicity

LD oral - rat > 3000 mg.kg⁻¹

11.2 Repeated dose toxicity

Not applicable.

11.3 Sensitisation

It has no sensitisation effects.

11.4 CMR effects (carcinogenity, mutagenicity, toxicity for reproduction)

It has no CMR effects.

11.5 Toxicokinetics, metabolism, distribution

Not applicable.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Not applicable.

12.2 Mobility

Not applicable.

12.3 Persistence and degradability

Not applicable.

12.4 Bioaccumulative potential

Not applicable.

12.5 Results of PBT assessment

Not applicable.

12.6 Other adverse environmental effects

According to the Water-Act No 254/2001 Sb. the product is not considered to be a defective substance or a hazardous substance according to Annex No 1 to the Water-Act.

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13. DISPOSAL CONSIDERATIONS

13.1 Recommended disposal methods for the substance / mixture (preparation)

Product reuse or disposal in accordance with valid waste legislative regulations.
Recommended method: material utilization.
Classification according to Waste Catalogue on the basis of waste attributes at the time of its origin.
Recommended classification according to Waste Catalogue: 07 02 13
20 01 39

13.2 Recommended disposal methods for contaminated packaging

Material or energetic utilization.

13.3 Waste management measures that control exposure of humans and environment

Proceed in accordance with valid health, air and water legislative regulations.

13.4 Waste regulation

Czech Republic
Act No 185/2001 Sb. on wastes and on the amendment of some additional acts, as amended.
Regulation No 381/2001 Sb. establishing the Waste Catalogue, as amended.
European Union
Directive 2006/12/ES on waste

14. TRANSPORT INFORMATION

14.1 Transport classification

Product is not classified as dangerous good according to transport regulations.

14.2 Special transport precautionary measures

Not applicable.

15. REGULATORY INFORMATION

15.1 Chemical Safety Assessment

Not applicable.

15.2 Labelling of the substance / mixture (preparation)

Not applicable (product is not classified as dangerous according to the Czech Act No. 356/2003 Sb. and Regulation (EC) No 1272/2008 (Directive 67/548/EEC or Directive 1999/45/EC).

15.3 Regulatory Data relating to the substance / mixture (preparation)

European Union
Regulation (EC) No 1907/2006 REACH
Regulation (EC) No 1272/2008
Czech Republic:
Act No 356/2003 Sb., on chemical substances and chemical preparations and on the amendment of some additional acts, in the wording of posterior regulations
Act No. 258/2000 Sb. on the Protection of Public Health and on the amendments of some related acts, as amended.
Order-in-Council No. 361/2007 Sb., regulating Safety Occupational Health Conditions in the workplace, as amended.

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16. OTHER INFORMATION

Information communication in accordance with Article 32 of the Regulation (EC) No 1907/2006 (REACH)

Product is classified as mixture (preparation) without dangerous properties. From this reason, in compliance with Article 31 of the REACH Regulation, no obligation to provide Material Safety Data Sheet (MSDS) applies.

This document, by which we perform our obligation to provide information to the customer in accordance with Article 32 of the REACH Regulation, has been elaborated in good faith in accordance with the Annex II of the REACH Regulation. The content of MSDS, however, does not necessarily have to correspond with the REACH requirements, as these have been formulated for substances and preparations, which are classified as dangerous.

Fulfilling the obligations related to Regulation (EC) No. 1907/2006 - REACH

Polymers, according to clause 2 (9) of the REACH regulation, are not subject to registration. In accordance with the REACH regulation monomers (ethylene, propylene) were pre-registered. Other monomers (butene-1, hexene-1) and all the additives, shall be used for the manufacture of the product only provided all the REACH requirements are met.

Training instructions

Personnel handling the product have to be instructed about the handling risks and the health protection and environmental requirements (see the relevant Employment Law provisions)

Access to information

Employer must in accordance with Articles 35 of the Regulation (EC) No 1907/2006 enable access to the information from MSDS workers and their representatives who this product use or may be exposed to in the course of their work.

Sources of data used to compile the Material Safety Data Sheet

Record on the classification of hazardous properties of the product

Annex No. 1 to the Regulation No 232/2004 Sb., as amended.

Annex No VI to the Regulation (EC) No 1272/2008 (Table No 3.2)

Annex No 1F to the Directive No 2008/58/EC

Annex No 1A to the Directive No 2009/2/ES

First aid principles in case of exposition to chemical substances (doc. MUDr. Daniela Pelclová et al.)

Revised information

27.06.2006: Revised data under headings 3.4, 5.3, 7.2, 12.5, 16

01.11.2006: Revised data under headings 1, 2, 8, 13 and 16

01.03.2007: Revised data under headings 1 and 16

01.06.2007: General update according to Regulation (EC) No 1907/2006 REACH

01.12.2009: Revised data under headings 1, 2.1, 3, 8.1, 15, 16 and "Statement"

Statement: *This Material Safety Data Sheet has been elaborated in accordance with the Regulation (EC) No 1907/2006. This MSDS contains information necessary for the protection of health and environment. The information does not substitute the quality specification of products and should not be construed as any guarantee of suitability for particular applications. The data contained are based on the present state of knowledge and current national legislation. The user is responsible for ensuring that the requirements of relevant regional legislation are complied with.*

According to an authorisation form on behalf of UNIPETROL RPA s.r.o., elaborated by:
Environmental and Standardisation Department HSE&Q, UNIPETROL SERVICES, s.r.o.