

## UNLEADED GASOLINES

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**Product Name: UNLEADED GASOLINES**

### 1 Product and Company Identification

#### 1.1 Product Identification

Trade Name: **Unleaded Gasolines  
(Normal 91, Special 91, Super 95, Super Plus 98)**

Name according to 67/548/EEC: ---

Other Names: Natural 91, Natural 95, Natural 98, Special 91; BA-91N, BA-95N, BA-98N,  
BA-91S

Registration No.: **01-2119471335-39-0090** ES 289-220-8 Gasoline; Low boiling point  
naphtha – unspecified  
**01-2119487295-27-0059** ES 216-653-1 Methyl terc. butyl ether (MTBE);  
2-methyl-2-methoxypropan

#### 1.2 Product Application

Unleaded gasolines are mainly used as the motor fuel for spark ignition engines.

#### 1.3 Company Identification

##### 1.3.1 Business Name and Identification No.

Česká rafinářská, a.s., Litvínov  
Záluží 2  
Litvínov  
Post Code 436 70

ID: 62741772  
Tax ID: CZ62741772  
[www.ceskarafinerska.cz](http://www.ceskarafinerska.cz)  
E-mail: [info@crc.c](mailto:info@crc.c)

##### 1.3.2 Place of Business

	<b>Litvínov Refinery</b>	<b>Kralupy Refinery</b>
	P. O. BOX 47	P. O. BOX 96
	436 01 <u>Litvínov</u>	278 01 <u>Kralupy n/Vlt.</u>
<b>telephone:</b>	+420-47 616 3567	+420-31 571 8500
<b>fax:</b>	+420-47 616 5086	+420-31 571 8640

##### 1.3.3 Person in Charge of the Material Safety Data Sheet

Ing. Václav Pražák	telephone:	+420 47 616 4308
	E-mail:	<a href="mailto:vaclav.prazak@crc.cz">vaclav.prazak@crc.cz</a>

#### 1.4 Telephone Number for Emergencies

##### 1.4.1 TRINS (transport information and emergency system)

It provides around-the-clock expert as well as practical assistance in handling emergency situations in connection with the transport and storage of hazardous chemical substances in the territory of the Czech Republic. The assistance is provided via fire brigade operational centres or via the national coordination centre of Chemopetrol, a. s., Litvínov.

**TRINS contact telephone no.: +420 – 476 709 826**

##### 1.4.2 Toxicological Information Centre of the Ministry of Health

**Address:** Na Bojišti 1, 128 08 Praha 2  
**Telephone:** +420-22 491 9292, 5402, 4575

## **2 Hazards Identification**

### **2.1 Classification**

Pursuant to Act No. 356/2003 Coll. (67/548/EEC), this product is classified as a hazardous chemical substance. Gasolines are extremely flammable liquids, harmful to health. With respect to the benzene content exceeding 0.1% (wt) they are classified as a Category 2 carcinogen.

Symbols: F+, T, N

R-Phrases: 12-38-45-46-51/53-62-65-67

### **2.2 Hazardous Physical and Chemical Effects**

Gasolines are extremely flammable liquids with a flash point below -20°C and start of distillation below 35°C. Their vapours form an explosive mixture with air. Product may accumulate static charges.

### **2.3 Human Health Hazards**

With respect to the benzene content exceeding 0.1 Wt%, gasolines are classified as Category 2 carcinogens. They are harmful to health – due to their low viscosity, they may cause lung damage if ingested. Gasolines cause local skin dryness and irritation. Their vapours may have narcotic effects, cause headache, nausea, irritation of the eyes and respiratory tract.

### **2.4 Environmental Hazards**

Harmful to water and soil. Prevent gasolines from entering into ground and surface waters and from soil contamination.

## **3 Composition or Information on Ingredients**

### **3.1 Preparation Composition, Concentration Limits and Ingredients Classification**

The products contain the following hazardous substances:

<i>Substance (name)</i>	<i>Proportion (% V/V)</i>	<i>No. CAS</i>	<i>No. EINECS</i>	<i>Symbol of risks</i>	<i>R-Phrases</i>
Gasoline; Low boiling point naphtha – unspecified	≥ 83	86290-81-5	289-220-8	F+, T, N	12-38-45-46-51/53-62-65-67
Methyl Tertiary Butyl Ether (MTBE)	≤ 15	1634-04-4	216-653-1	F, Xi	11-36/37/38
Ethyl Tertiary Butyl Ether (ETBE)	≤ 15	637-92-3	211-309-7	F	11
Ethanol; Ethyl Alcohol (C <sub>2</sub> H <sub>5</sub> OH)	≤ 5	64-17-5	200-578-6	F	11

### **3.2 Chemical Specification**

Unleaded gasolines are a complex blend of hydrocarbons boiling between approx. 30 and 210°C, containing aromatic hydrocarbons up to 35% V/V and benzene content up to 1% V/V. For improving application characteristics, they may contain appropriate additives – antiknock, detergent, antioxidant etc. The "Special" contains a special valve seat recession protection additive (VSRPA). Unleaded gasolines may also contain various oxygen compounds with suitable properties to the amount specified by the applicable standard, with the total oxygen amount not exceeding 2.7 Wt%.

### **3.3 PBT Information**

According to the criteria in the Regulation Annex XIII, the following substances are identified as PBTs in the product:

Gasoline – being a Category 2 carcinogen, meets the criterion T pursuant to the Clause 1.3 of the Annex mentioned above;

## **4 First Aid Instructions**

### **4.1 General Instructions**

When handling the product, it is necessary to observe all the requirements related to health and safety at work in compliance with the applicable legislation and this Material Safety Data Sheet.

In the case of risk of unconsciousness, transport in the recovery position.

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#### **4.2 Inhalation**

Remove to fresh air, provide rest, prevent from walking. If breathing has stopped, apply mouth-to-mouth resuscitation. Obtain medical attention.

#### **4.3 Skin Contact**

Wash skin with water and soap, wash away, change clothes.

#### **4.4 Eye Contact**

Flush eyes carefully with plenty of water and obtain medical attention.

#### **4.5 Ingestion**

Give water in case of ingestion. Do not induce vomiting. Obtain medical attention.

### **5 Fire Fighting Measures**

#### **5.1 Suitable Extinguishing Media**

Foam, powder, carbon dioxide.

#### **5.2 Unsuitable Extinguishing Media**

Water (only suitable for cooling).

#### **5.3 Special Hazards**

Product vapours form an explosive mixture with air. It burns with sooty flame in air. Carbon monoxide may be released.

#### **5.4 Special Protective Equipment for Fire Fighters**

Fire-resistant clothing, self-contained breathing apparatus.

### **6 Accidental Release Measures**

#### **6.1 Personal Precautions**

Prevent contamination of clothes and shoes, prevent skin and eye contact. To escape a contaminated area, use a respirator fitted with an organic vapour cartridge. Do not smoke. Remove all potential sources of ignition. Evacuate all persons who do not participate in salvage operations.

#### **6.2 Environmental Precautions**

Prevent from spreading. Guard the area. Do not drain into sewers. Prevent entry into soil and water.

#### **6.3 Recommended Clean-Up and Disposal Methods**

Depending on the situation, drain or absorb into a suitable porous material and dispose of in compliance with the applicable waste legislation.

### **7 Handling and Storage**

#### **7.1 Handling Instructions**

When handling hazardous chemical substances and chemical preparations, everybody is obliged to protect human health and the environment and observe the warning symbols of hazards, standard phrases marking the degree of risk and standard instructions for safe handling.

#### **7.2 Storage Instructions**

The ČSN 65 0201 standard applies to storage. The premises must be equipped in accordance with ČSN 75 3415. Keep in a well-ventilated area away from ignition sources. Electrical equipment must conform to the respective regulations. Protect from electrostatic charges. Do not smoke.

### 7.3 *Specific Use*

Gasolines are mainly used as the fuel for spark ignition engines. They must not be used for vehicles that are operated at workplaces in confined spaces, or as a cleaning agent, for lighting, heating or kindling. Never drain into sewers.

## 8 *Exposure Controls / Personal Protection*

### 8.1 *Exposure Limits*

		gasoline (total hydrocarbons)	MTBE	ETBE	C <sub>2</sub> H <sub>5</sub> OH
PEL	mg/m <sup>3</sup>	400	100	100	1,000
NPK-P	mg/m <sup>3</sup>	1,000	200	200	3,000

### 8.2 *Exposure Controls*

General safety and sanitary precautions: never eat, drink or smoke when working with gasolines. Before meals and drinks and after work wash the skin with warm water and soap and apply a suitable moisturizing cream.

#### 8.2.1 *Employee Exposure Controls*

<i>Respiratory protection:</i>	Respirator with A, AX-(brown) cartridge or other suitable type against organic gases and vapours of organic substances.
<i>Eye protection:</i>	Chemical type goggles.
<i>Hand protection:</i>	Safety gloves.
<i>Skin protection:</i>	Protective clothing

#### 8.2.2 *Environmental Exposure Controls*

See Clauses 2.4, 6.2 and 16.3.

## 9 *Physical and Chemical Properties*

### 9.1 *General Information*

<i>Physical state (at 20°C):</i>	liquid
<i>Colour:</i>	pale straw (orange-red for "Special")
<i>Odour:</i>	characteristic gasoline odour

### 9.2 *Important Information Regarding Health Protection, Safety and Environment*

<i>Density at 15°C:</i>	715 to 775 kg/m <sup>3</sup>
<i>Boiling point range:</i>	30 to 210°C
<i>Relative vapour density:</i>	approx. 3.5 (air =1)
<i>Solubility in water:</i>	negligible
<i>Reid vapour pressure:</i>	35 to 90 kPa
<i>Flash point:</i>	< -20°C
<i>Concentration explosion limits: lower:</i>	0.6% (V/V)
<i>upper:</i>	8.0% (V/V)
<i>Maximum Experimental Safe Gap</i>	> 0.9 mm

### 9.3 *Other Information*

<i>Pour point:</i>	< -40°C
<i>Ignition point:</i>	< -20°C
<i>Self-ignition temperature:</i>	approx. 340°C

## **10 Stability and Reactivity**

The product is stable at normal use conditions.

### **10.1 Conditions to Avoid**

Concentrations within explosion limits, presence of ignition sources, contact with naked flames.

### **10.2 Materials to Avoid**

Oxidizing agents.

### **10.3 Hazardous Decomposition Products**

None under normal conditions; incomplete burning can produce carbon monoxide and soot.

## **11 Toxicological Information**

### **11.1 Acute Toxicity**

N/A.

The following figures are given for individual substances:

	gasoline	MTBE
LD <sub>50</sub> , orally, rat, mg.kg <sup>-1</sup>	92,000	4,000
LD <sub>50</sub> , dermally, rat or rabbit mg.kg <sup>-1</sup>	> 2,000	---
LD <sub>50</sub> , intravenously, rat, mg.kg <sup>-1</sup>	---	148
LC <sub>50</sub> , inhalatory, rat, mg.kg <sup>-1</sup> .4 h <sup>-1</sup>	---	23,576

### **11.2 Sub-chronic – Chronic Toxicity**

Gasoline attacks the nervous system and its vapours in higher concentrations have narcotic effects and may causes convulsions, even death. It also contains benzene in a concentration between 0.1 and 1% (V/V), which has serious biological effects and damages blood cell formation. Prolonged and intensive skin contact may cause dryness and strong skin irritation (dermatitis).

TCL<sub>0</sub>, inhalatory rat – 100 mg.m<sup>-3</sup>.4 h<sup>-1</sup>.17 weeks<sup>-1</sup> – blood changes, biochemical changes.

### **11.3 Other Information**

Category 2 carcinogen.

Sensitisation – N/A.

Mutagenicity – N/A.

Reproductive Toxicity – N/A.

## **12 Ecological Information**

### **12.1 Ecotoxicity**

N/A.

### **12.2 Mobility**

Not expected. Surface tension approx. 25 mS/m.

### **12.3 Persistence and Degradability**

Due to negligible solubility in water, persistence in aquatic organisms is not expected.

Biodegradability in accordance with CEC approx. 50 – 60%.

Difficult to degrade.

### **12.4 Potential to Bioaccumulate**

N/A.

Based on log K<sub>ow</sub>, very low potential even after prolonged exposure can be expected.

### **12.5 PBT Assessment Results**

No information is available.

### **12.6 Other Adverse Effects**

It forms a continuous layer on water surfaces preventing access of oxygen.

It does not contain substances that deplete the ozone in accordance with the Montreal Protocol and its Copenhagen Amendment.

## **13 Disposal Instructions**

### **13.1 Product Disposal**

Wastes and unused residues are disposed of in compliance with the applicable legislation on wastes, usually by incineration in the reserved incinerators. Dumping is inappropriate.

### **13.2 Contaminated Container Disposal**

Gasolines are supplied in railway and road tank cars. Decontamination and disposal of these containers follows the applicable ADR/RID regulations.

### **13.3 Legal Regulations on Wastes**

In accordance with Act No. 185/2001 Coll., on wastes, as amended, including related regulations and provisions, the product is classified as follows: Waste type code according to the inventory: **13 07 02 (in sorbent 15 02 02)**

Waste category: N

## **14 Transport Information**

The product is transported using the railway or road tank cars or via pipeline.

Nomenclature and labelling in accordance with the European Agreement on Dangerous Goods RID/ADR as amended:

GASOLINE	Hazard ID No.:	33	Classification code:	F1
	UN No.:	1203	Class:	3
	Packing group:	II	Labelling:	3
ENVIRONMENTALLY HAZARDOUS				

## **15 Information on Legal Regulations Applying to the Substance or Preparation**

### **15.1 Information to be specified on the container in accordance with Act No. 356/2003 Coll.**

The product contains the following hazardous chemical substances:

Gasoline (ES 289-220-8) – min. 83% (V/V). Benzene content (ES 200-753-7) – max. 1.0% (V/V)

CH<sub>3</sub>OH (ES 200-659-6) – max. 1% (V/V). MTBE (ES 216-653-1) – max. 15% (V/V).

C<sub>2</sub>H<sub>5</sub>OH (ES 200-578-6) – max. 5% (V/V). ETBE (ES 211-309-7) – max. 15% (V/V)

Indication of danger: Category 2 carcinogen, extremely flammable, harmful to health

Symbols: F+, T, N

R-Phrases: 12-38-45-46-51/53-62-65-67

S – Phrases: (2)-7-16-23-24-33-43-45-53-61-62

### **15.2 Specific EU Provisions**

N/A.

### **15.3 Specific Legal Regulations Applying to Personal or Environmental Protection**

No.

## **16 Other Information Applying to the Dangerous Chemical Substance or Preparation**

### **16.1 List of Used R-Phrases and S-Phrases**

#### **16.1.1 Standards Phrases Marking Specific Degree of Risk (R-Phrases)**

R – 11	Highly flammable
R – 12	Extremely flammable
R – 23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R – 38	Irritating to skin
R – 36/37/38	Irritating to eyes, respiratory system and skin
R – 39/23/24/25	Toxic: danger of very serious irreversible effects by inhalation, in contact with skin and if swallowed
R – 45	May cause cancer.
R – 46	May cause heritable genetic damage
R – 48/23/24/25	Toxic: danger of serious damage to health by prolonged exposure by inhalation, in contact with skin and if swallowed
R – 51/53	Toxic to aquatic organisms, may cause long-term adverse effects in aquatic environment
R – 62	Possible risk of impaired fertility
R – 65	Harmful: may cause lung damage if swallowed
R – 67	Vapours may cause drowsiness and dizziness

#### **16.1.2 Standard Instructions for Safe Handling (S-Phrases)**

S – (2)	Keep out of reach of children
S – 7	Keep container tightly closed
S – 16	Keep away from sources of ignition - No smoking
S – 23	Do not breathe vapours
S – 24	Avoid contact with skin
S – 33	Take precautionary measures against static discharges
S – 43	In case of fire use foam, powder or carbon dioxide. Water is only suitable for cooling
S – 45	In case of an accident or if you feel unwell, seek medical advice immediately (show label where possible)
S – 53	Avoid exposure – obtain special instructions before use
S – 61	Avoid release to the environment. Refer to special instructions/safety data sheets
S – 62	If swallowed do not induce vomiting: seek medical advice immediately and show this container or label

### **16.2 Information on Training**

Trainings are carried out in accordance with the requirements of the Labour Code and Act No. 258/2000 Coll.

### **16.3 Other Regulatory Information**

#### **16.3.1 Act No. 86/2002 Coll., on air conservation**

The product is subject to the respective provisions of Act No. 86/2002 Coll., on air conservation, as amended, including the related regulations and provisions.

According to Section 2 Subsection n) of the above-mentioned Act and Decree No. 355/2002 Coll., which specifies the emission limits and other operating conditions for other stationary sources of air pollution emitting volatile organic substances from processes applying organic solvents and from petrol storage and distribution, the product is categorized as:

- a) Category 2 carcinogen with R-Phrase – 45;**
- d) gasoline (engine fuel, vapour pressure/20°C > 1.32 kPa).**

Technical data to be specified on the label according to Annex 5 of Decree No. 355/2002 Coll.:

Product density (g/cm <sup>3</sup> )	0.715 to 0.775
Organic solvent content in kg/kg of product	0
Content of total organic carbon in v kg/kg of product	approx. 0.87
Content of non-volatile substances in % (V/V)	max. 2

### **16.3.2 ČSN 65 0201 Flammable Liquids – Plants and Storage Facilities**

In accordance with ČSN 65 0201, the product is classified as a Class I flammable product.

### **16.3.3 ČSN 33 0371 Non-explosive Electrical Equipment – Explosive Mixtures – Classification and Test Methods**

In accordance with ČSN 33 0371, the product is classified as the T2 temperature class product and IIA explosion group product.

### **16.4 Information on Changes**

All changes in this Material Safety Data Sheet were induced by Regulation 1907/2006/EC. The Material Safety Data Sheet will further be continuously updated based on the data obtained during the processing of the registration documentation and the registration proper.

### **16.5 Applied Literature**

- Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- Act No. 86/2002 Coll., on air conservation, as amended, including the related regulations and provisions
- Act No. 111/1994 Coll., on road transport, as amended, including the related regulations and provisions (ADR)
- Act No. 185/2001 Coll., on wastes, as amended, including the related regulations and provisions
- Act No. 258/2000 Coll., on public health protection, as amended, including the related regulations and provisions
- Act No. 262/2006 Coll., the Labour Code, as amended, including the related regulations and provisions
- Act No. 266/1994 Coll., on railways, as amended, including the related regulations and provisions (RID)
- Act No. 356/2003 Coll., on chemical substances and chemical preparations, as amended, including the related regulations and provisions
- Government Decree No. 178/2001 Coll., which stipulates the conditions for occupational protection of employees, as amended
- ČSN EN 228 Automotive fuels — Unleaded petrol — Requirements and test methods
- ČSN 33 0371 Non-explosive Electrical Equipment – Explosive Mixtures – Classification and Test Methods
- ČSN 65 0201 Flammable Liquids – Plants and Storage Facilities
- ČSN 75 3415 Protection of Water from Petroleum Products – Facilities for Petroleum Products Handling and Storage

### **16.6 Other Information**

The information contained in this Material Safety Data Sheet applies to the specified product only and is based on our current knowledge and experience and need not be comprehensive. The user is responsible for the proper handling of the product in accordance with the applicable legislation.