

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

## 1. IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### 1.1. Product identifier

- Trade name: HEAVY REFORMAT  
- Chemical name: Naphtha (petroleum), heavy catalytic reformed  
- Synonyms: Gasoline components, heavy catalytic reformed  
- EC index no.: 649-300-00-9  
- EC no.: 265-070-9  
- CAS no.: 64741-68-0  
- Registration No.: 01-2119485819-17-0009  
- Product code: 1000715; 1000896

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

- Relevant identified uses: Industrial:  
Manufacture of substance  
Use of substance as intermediate  
Distribution of substance  
Formulation & (re) packing of substance and mixtures

- Uses advised against: The uses that are in the list above are relevant. Other uses are not recommended unless an assessment that proves that the related risks are controlled has been conducted before starting that use.

### 1.3. Details of the supplier of the safety data sheet

- Manufacturer/supplier: **INA-Industrija nafte, d.d.**

Address: Av. Većeslava Holjevca 10  
pp 555, 10002 Zagreb, HRVATSKA

Phone: 00-385-1-6450-842 / 00-385-1-6451-075 (24 h)

Fax: 00-385-1-6452-050

e-mail: [sds@ina.hr](mailto:sds@ina.hr)

- Responsible person: **Sustainable Development and Health, Safety and Environment Sector**  
Mirela Mavrinac, B. Sc.  
Hrvoje Raukar, B.Sc. Tel. 00-385-1-6450-803

### 1.4. Emergency Telephone Number

- Emergency Service Telephone Number: **112**  
National Protection and Rescue Directorate 00-385-1-3650-011  
Nehajska 5, 10000 Zagreb 00-385-1-3650-084  
e-mail: [info@duzs.hr](mailto:info@duzs.hr) 00-385-1-3650-082  
00-385-1-3650-083

- Medical Information Telephone Number: **00-385-1-23-48-342**

## 2. HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

**2.1.1. Classification according to Regulation (EC) No 1272/2008 (CLP/GHS):**

Flam. Liquid 2; H225

Skin irrit. 2; H315

Muta. 1B; H340

Carc. 1B; H350

Repr 2; H361

Asp.Tox. 1; H304

STOT Single Exp.3; H336

Aquatic Chronic 2; H411

Full text of H-phrases: see section 16.

**2.1.2. Additional information**

No data.

**2.2. Substance or mixture labelling**

**2.2.1. Labelling according to Regulation (EC) No 1272/2008 (CLP/GHS)**

Hazard pictograms:



Signal word: Danger

Hazard statements (H):	H225	Highly flammable liquid and vapour.
	H304	May be fatal if swallowed and enters airways.
	H315	Causes skin irritation.
	H336	May cause drowsiness or dizziness.
	H340	May cause genetic defects (inhalation, oral, dermal).
	H350	May cause cancer (dermal, inhalation, oral).
	H361	Suspected of damaging fertility or the unborn child (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).
	H411	Toxic to aquatic life with long lasting effects.
Precautionary statements (P):	P201	Obtain special instructions before use.
	P210	Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301+P310	IF SWALLOWED, immediately call a POISON CENTER or doctor/physician.

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

- P403+P233 Store in a well-ventilated place. Keep container tightly closed.
- P501 Dispose of contents/container in accordance with national regulations.

### 2.3. Other hazards

Product does not fulfil PBT and vPvB criteria for classification as defined by Appendix XIII of REACH Regulation.

Note P

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

- Substance:	X		Mixture:		
- Components contributing to product hazardousness:					
Substance name	Substance identification			[%]	Classification according to Regulation (EC) No 1272/2008 (CLP/GHS)
	CAS no.	EC no.	Registration no. (REACH)		
Naphtha (petroleum), heavy catalytic reformed	64741-68-0	265-070-9	01-2119485819-17-0009	100	Muta. 1B, H340 Carc. 1B, H350 Asp.Tox. 1, H304
Benzene*	71-43-2	200-753-7	-	> 0,1	Flam. Liq. 2, H225 Carc. 1A, H350 Muta. 1B, H340 STOT RE 1, H372 Asp. Tox. 1, H304 Eye Irrit. 2, H319 Skin Irrit. 2, H315
Toluene*	108-88-3	203-625-9	-	>3	Flam. Liq. 2, H225 Repr. 2, H316d Asp. Tox. 1, H304 STOT RE 2 *, H373 Skin Irrit. 2, H315 STOT SE 3, H336
n-hexane*	110-54-3	203-777-6	-	>3	F; R11 Repr. Cat. 3; R62 Xn; R65-48/20 Xi; R38 R67 N; R51-53 Flam. Liq. 2; H225 Repr. 2; H361f Asp. Tox. 1; H304 STOT RE 2 *, H373 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411

\* These components were not added on purpose but they are reported as important for classification.

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

## 4. FIRST AID MEASURES

### - General information:

### - First aid procedures

- after inhalation: Take the person to fresh air, calm him/her down and call medical help. In case of heavy breathing provide oxygen. In case of stopped breathing give resuscitation. In any of these cases, medical help must be sought.
- after skin contact: Remove contaminated clothes and shoes immediately. Rinse thoroughly the contact place with plenty of water and soap, 20 minutes at minimum. To seek medical help if symptoms pertain.
- after eye contact: Remove contact lenses if worn by the affected person. To rinse with running water 15 minutes at minimum. To seek medical help if symptoms pertain.
- after ingestion: DO NOT induce vomiting! In case of vomiting, keep the head below the hipline in order to prevent entry into lungs. To seek medical help.
- **Note to person administering first aid/physician:** During transportation of affected person to hospital, an instruction on medical care in case of poisoning with easily evaporating solvents should be brought along. Keep the affected person calm and pay attention in case of vomiting because of the risk of lung oedema.

## 5. FIRE FIGHTING MEASURES

### - Extinguishing media:

- SUITABLE: Dry powder of CO<sub>2</sub>, in case of bigger fires: air foam or freon. In case of smaller fires in confined areas, water mist may be used.
- NOT SUITABLE: Water jet.

- **Fire fighting measures for special hazards:** To cool the containers with water jets and to remove all sources of fire.

- **Special fire fighting measures:** There is an increased danger from vapours explosion during fire, especially in a confined area. Containers to be cooled by water jets.

- **Special fire fighter equipment:** Self-contained open circuit pressurized air-breathing apparatus (HRN EN 137), a set for protection against heat radiation.

- **Special hazards of exposure:** Vapours are heavier than air and explosive when mixed with air.

- **Other information:** No data.

Product

**HEAVY REFORMAT**

Date: 2015/6/30

Edition: 5

## 6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Display a visible sign prohibiting entrance and use of open flame and sparking devices. Remove all fire causes. Measure the benzene gasses' concentration in the air, according to the regulations. Stand upwind of the spill site.
- **Environmental precautions:** Prevent leaks into watercourses and drainage systems by setting up sand dams and partitions. Prevent leakage of water remaining after fire extinguishing to the surface watercourses / underground waters. Notify the Emergency Service at the number 112.
- **Methods for cleaning-up and recovery:** Pump the product from the damaged tank into an empty tank – container with the pump designed for use in a potentially explosive atmosphere. Absorb the remainders on the ground with absorbents (sand and other inert materials). Store the waste material and contaminated surface layer of soil that was removed in tightly closed containers in well-ventilated premises until disposal. Hand over for disposal to legal entities authorized for hazardous waste disposal by the Ministry in charge of environmental protection.
- **Additional warnings:** Absorption into soil, water and air must be prevented!

## 7. HANDLING AND STORAGE

- **Handling:**
- **safety precautions:** Keep away from sources of heat. Immediately eliminate all sources of ignitions. Decant at areas designated for the purpose with sufficient ventilation. Use only properly functioning equipment and devices. Do not use sparking tools. Make sure that the floor in the work premises and storage area is impervious and stable to solvents. Floors in areas with explosive atmosphere must have transfer resistance of <math><1\text{M}\Omega</math>. Ground all devices and take precautionary measures against static electricity.
- **safe handling advice:** Do not smoke, eat, drink or store food in a room where this product is handled. Keep personal clothes separate from work clothes and workplace. Wear work clothes, protective gloves and goggles.
- **Storage: technical measures and storage conditions:**
- **SUITABLE:** Store in tightly closed containers, properly built and equipped in a well-ventilated room and at appropriate temperature. Take preventive measures against electrostatic charge. Make sure that receiving tank farms are below self supporting tanks.
- **TO BE AVOIDED:** Avoid storing with other chemicals, especially flammable ones. Do not use sparking tools or devices in the storage area.
- **Packaging materials:**

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

- RECOMMENDED: Original, made by the manufacturer.
- NOT SUITABLE: Do not decant into replacement, damaged or inadequate containers.
- **Special use:** None

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Exposure limit values

Hazardous substance	Exposure limit values (Croatia) ppm	Biological limit values
benzene	1	0,12 ppm in end-exhaled air (smoking enhances the value of test results)
toluene	50	10,85 µmol/L (1,0 mg/L) in blood at the end of the shift 0,83 µmol/L (20 ppm) in end-exhaled air during exposure
n-hexane	20	-

#### - Monitoring procedures

### 8.2. Exposure controls

- **Summary of risk management measures:** Ensure good ventilation in work area.

#### 8.2.1. Occupational exposure controls

##### - Description of operating procedure and technological control:

Measure concentration of benzene vapor in air, according to procedure.

##### - Personal protective equipment

- respiratory tract protection: Wear full face protective mask (HRN EN 136/AC:2006) with "A" filter (HRN EN 14387).
- hand protection: Protective gloves made from persistent and leak proof material: PVA (polyvinyl alcohol) Teflon, vitone (HRN EN 420, HRN EN 374). Do not use rubber gloves!
- eye protection: Protective glasses or visor (HRN EN 166) at lower concentration, and protective mask at higher concentration.
- skin and body protection: Protective clothing with long sleeves (HRN EN 464) and protective footwear, nitrile rubber apron, chemical resistant suit.
- **Special hygienic and safety precautions:** Maintain the prescribed hygiene standards for working with hazardous substances. Remove contaminated clothing and footwear. Do not smoke, eat and drink when handling the product. Wash hands before breaks and at the end of work.

#### 8.2.2. Environmental exposure controls

- **Summary of risk management measures:** No data available.

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General information:

- state: Liquid
- colour: Yellowish
- odour: Characteristic of petrol

### 9.2. Important health, safety and environmental information:

- pH value (indicate conc. and temp.): No data available
- boiling point/boiling range: °C 90-230
- flash point: °C No data available
- flammability (solid, gas): No data available
- explosive properties: vol. % 1,4-7,4 (literature)
- oxidizing properties: No data available
- vapour pressure: kPa 3-8
- density at 15 °C: kg/m<sup>3</sup> 820-863
- solubility (indicate solvent): g/L No data available
- Solubility in water: g/L No data available
- partition coefficient n-octanol / water logPow No data available
- viscosity (kinematic) at 100 °C: mm<sup>2</sup>/s No data available
- vapour density at 15°C: kg/m<sup>3</sup> No data available
- volatility: No data available

### 9.3. Other data:

- melting point/melting range: °C No data available.
- disintegration temperature: °C No data available.
- auto ignition temperature: °C No data available.
- conductivity: pS/m No data available.
- miscibility: No data available

## 10. STABILITY AND REACTIVITY

- **Stability:** Stable at prescribed storage and use conditions.
- **Conditions to avoid:** Remove all heat source, open flame and sparking.
- **Materials to avoid:** Halogens, strong acids, alkali and strong oxidants.
- **Hazardous decomposition products:** There is no in normal operation conditions but, thermal decomposition can cause genesis of hazardous gases, including carbon monoxide (CO).
- **Special hazards:** No data available

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

## 11. TOXICOLOGICAL INFORMATION

### - Acute toxicity

- oral (LD<sub>50</sub>): > 5000 mg/kg (rat)
- inhalation (LC<sub>50</sub>): > 5,22 mg/L (rat; 4 hours)
- dermal (LD<sub>50</sub>): > 2000 mg/kg (rabbit)

### - Chronic exposure

- oral (LD<sub>50</sub>): No data available
- inhalation (LC<sub>50</sub>): No data available
- dermal (LD<sub>50</sub>): No data available

### - Irritation/Corrosion

- skin: May cause skin irritation
- eyes: No data available
- respiratory tract: Harmful: may cause lung damage if swallowed

### - Sensitisation

- skin: No data available
- respiratory tract: No data available

### - Other classic effects: (e.g. unconsciousness, particularly toxic metabolites, etc.):

May cause drowsiness or dizziness.  
Liquid ingestion may cause lung aspiration and pneumonia.

### - Permanent effect due to acute or chronic exposure:

Exposure to higher concentrations may cause cancer, leukemia and death.

### - Special effects

- mutagenicity: May cause genetic defects (inhalation, oral, dermal). Muta. 1B.
- carcinogenicity: May cause cancer (dermal, inhalation, oral). Carc. 1B.
- fertility decrease: Suspected of damaging fertility or the unborn child. Repr.2.
- harmful effect on unborn child: No data available.
- toxicity to reproduction: No data available.
- other (e.g. endocrine disruptors): No data available.

### - Toxicokinetics:

No data available.

### - Prohibitions and restrictions:

No data available.

### - Other:

No data available.



---

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

---

## 12. ECOLOGICAL INFORMATION

### 12.1. Eco-toxicity

- to aquatic organisms: Toxic to aquatic life with long lasting effects
- to ground organisms: No data available
- to plants and land animals: No data available

### 12.2. Mobility

#### Method:

- known or predicted distribution to environmental compartments: No data available
- surface tension: No data available
- absorption/desorption: No data available
- other physical and chemical properties: See section 9.

### 12.3. Persistence/degradability

- biotic degradation: No data available
- other degradation processes: No data available
- degradation in wastewater: No data available

### 12.4. Bio-accumulation

- bio-concentration factor (BCF): No data available

### 12.5. Results of PBT assessment

- data from chemical safety report: No data available

#### Other data:

No data available

## 13. DISPOSAL CONSIDERATIONS

### - Preferred disposal considerations:

- **Waste from residues:** There is no classic waste from this product, except in case of unintentional release. (In that case see section 6).
- **Contaminated packaging:** Not applicable
- **Local applicable regulations:** Waste act; Types and Classification with Waste Catalogue and Hazardous Waste List; Decree on Hazardous Waste Management Conditions; Regulations on Waste Management Conditions

Obligatory compliance with the EU, national, and/or local laws and regulations. User shall be responsible for knowledge of all relevant national and local regulations.

## 14. TRANSPORT INFORMATION

### - Transport classification signs:

### - Name of hazardous chemical according to international contracts on transport of hazardous substances:

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

Gasoline or petrol

**Road/Rail transport (ADR / RID):**

**UN number:** 1268      **class:** 3      **risk label:** 3      **packaging group:** II

**Inland Waterway (ADNR):**

**UN number:** 1268      **class:** 3      **risk label:** 3      **packaging group:** II

**Sea transport (IMDG):**

**UN number:** 1268      **class:** 3      **risk label:** 3      **packaging group:** II

**Air transport (ICAO/IATA):**

**UN number:** 1268      **class:** 3      **risk label:** 3      **packaging group:** II

**- Additional regulations:** Hazardous materials transport Act; European Agreement on International Road Transport of Hazardous Materials (ADR – Appendixes A i B); Regulations on the Manner of Hazardous Materials Transport; Regulations on Handling Hazardous Materials, Conditions and Manner of Transport in Sea Transport, Loading and Unloading of Hazardous Materials, Bulk and Other Cargo in Harbours and the Manner of Preventing Oil Spills in Harbours

**- Special precautions and transport conditions:** No data.

### 15. REGULATORY INFORMATION

**- Applicable EU regulations:** EU Regulation No. 1906/2007 and No. 1272/2008 of the European Parliament and the Council;  
Commission Regulation (EU) No 453/2010 of 20 May 2010 (amending Regulation (EC) No 1907/2006 (REACH));  
EU Regulation No. 2037/2000 of the European Parliament and of the Council of 29 June 2000 on substances that deplete the ozone layer;  
EU Regulation No 689/2008 of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals;  
EU Regulation No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants;  
Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

**- Applicable national regulations:** Chemicals act; Regulation of Classification, Marking, Labelling and Packaging of Hazardous Chemicals; Regulations on Hazardous Substance Exposure Limit Values and Biological Limit Values; Regulations on Filling in the Material Safety Data Sheet; Regulation of changes in Regulation of Classification, Marking, Labelling and Packaging of Hazardous Chemicals

<b>- Chemical Safety Assessment carried out (CSA):</b>	YES	x	NO
--------------------------------------------------------	-----	---	----

**- Authorization information: -**

**- Restriction information: -**

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

**16. OTHER INFORMATION****Revision indicators****Section: Subject of change:**

- |       |                                          |
|-------|------------------------------------------|
| 2.1.2 | Classification according to DSD removed. |
| 3     | Classification according to DSD removed. |
| 14    | Packaging group and UN number changed.   |
| 16    | Full text of R phrases removed.          |

**Full text of H- phrases, EUH- and P-phrases:**

- |           |                                                                                                                                                               |
|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| H225      | Highly flammable liquid and vapour.                                                                                                                           |
| H304      | May be fatal if swallowed and enters airways.                                                                                                                 |
| H315      | Causes skin irritation.                                                                                                                                       |
| H336      | May cause drowsiness or dizziness.                                                                                                                            |
| H340      | May cause genetic defects (inhalation, oral, dermal).                                                                                                         |
| H350      | May cause cancer (dermal, inhalation, oral).                                                                                                                  |
| H361      | Suspected of damaging fertility or the unborn child (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard). |
| H411      | Toxic to aquatic life with long lasting effects.                                                                                                              |
| P201      | Obtain special instructions before use.                                                                                                                       |
| P210      | Keep away from heat/sparks/open flames/hot surfaces. – No smoking.                                                                                            |
| P280      | Wear protective gloves/protective clothing/eye protection/face protection.                                                                                    |
| P301+P310 | IF SWALLOWED, immediately call a POISON CENTER or doctor/physician.                                                                                           |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed.                                                                                              |
| P501      | Dispose of contents/container in accordance with national regulations                                                                                         |

**Abbreviations and acronyms:**

- |                        |                                                                               |
|------------------------|-------------------------------------------------------------------------------|
| <b>CSA</b>             | Chemical Safety Assessment                                                    |
| <b>CSR</b>             | Chemical Safety Report                                                        |
| <b>PBT</b>             | Persistent, bioaccumulative and toxic                                         |
| <b>vPvB</b>            | Very persistent and very bioaccumulative                                      |
| <b>STOT</b>            | Specific Target Organ Toxicity                                                |
| <b>STOT (RE)</b>       | Specific Target Organ Toxicity (Repeated Exposure)                            |
| <b>STOT (SE)</b>       | Specific Target Organ Toxicity (Single Exposure)                              |
| <b>UVCB</b>            | Unknown or Variable composition Complex reaction product or Biological origin |
| <b>LD<sub>50</sub></b> | Lethal Dose, 50%                                                              |
| <b>LC<sub>50</sub></b> | Lethal Concentration, 50%                                                     |

---

Product	<b>HEAVY REFORMAT</b>	Date:	2015/6/30
		Edition:	5

---

**Statement:**

This SDS is in compliance with the EU Regulation No. 1906/2007 and No. 1272/2008 of the European Parliament and the Council. It contains important user health and safety and environmental protection information. The information provided herein is not a substitute for any specification of quality and should not be deemed as a guarantee of the adequacy and applicability of this product for any purpose whatsoever. All information provided herein is based on our current knowledge and compliant with applicable legal regulations. The user is responsible for adherence to relevant legal regulations.

**Data source:**

1. <http://ecb.jrc.ec.europa.eu/esis/>
2. Concawe Report 10/14, *Hazard classification and labelling of petroleum substances in the European Economic Area – 2014*
3. <http://echa.europa.eu/>
4. <http://www.hzt.hr>

**APPENDIX: EXPOSURE SCENARIOS ACCORDING TO CHEMICAL SAFETY REPORT**

---