
Product	REFORMER FEED	Date:	2016/12/15
		Edition:	2

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

1.1. Product identifier

- Trade name: REFORMER FEED
- Chemical name: -
- Index no.: -
- EC no.: -
- CAS no.: -
- Registration No.: -
- Product code: 1000889

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

- Relevant identified uses: Manufacture of Substances - industrial
Use as intermediate - industrial
- 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 Holjevcica 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

- Responsible person:

SD & HSE Sector

Mirela Mavrinac, B.Sc.

Tel. 00-385-1-6450-803

Hrvoje Raukar, B.Sc.

1.4. Emergency Telephone Number

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

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

Flam. Liq. 2; H225

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Skin Irrit. 2; H315
 Muta. 1B; H340
 Carc. 1B; H350
 Repr.2; H361
 STOT SE 3; H336
 Asp.Tox. 1; H304
 Aquatic Chronic 2; H411
 Full text of H-phrases: see section 16.

2.2. Substance or mixture labelling

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

Hazard pictograms:



GHS02 GHS08 GHS07 GHS09

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.
	H350	May cause cancer.
	H361d	Suspected of damaging the unborn child.
	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.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/ eye protection/ face protection.
P331	Do NOT induce vomiting.
P301+ P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P403+ P233	Store in a well-ventilated place. Keep container tightly closed.

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P501 Dispose of contents/container in accordance with national regulation.

2.3. Other hazards

The product does not meet the criteria for PBT or vPvB classification in Annex XIII of REACH.
Note P

3. COMPOSITION / INFORMATION ON INGREDIENTS

-Substance:		Mixture:	X		
- Components contributing to product hazardoussness:					
Substance name	Substance identification			[%]	Classification according to Regulation (EC) No 1272/2008 (CLP/GHS)
	CAS no.	EC no.	Registration no. (REACH)		
Naphtha (petroleum) full-range straight-run	64741-42-0	265-042-6	01-2119474679-18-0112	≤ 100	Carc. 1B; H350 Muta. 1B; H340 Asp. Tox. 1; H304
Naphtha (petroleum), heavy hydrocracked	64741-78-2	265-079-8	01-2119485814-27-0010	≤ 20	Carc. 1B; H350 Muta. 1B; H340 Asp. Tox. 1; H304
Benzene*	71-43-2	200-753-7	-	> 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	-	> 1	Flam. Liq. 2 H225 Repr. 2; H361d*** Asp. Tox. 1; H304 STOT RE 2*; H373*** Skin Irrit. 2; H315 STOT SE 3; H336
n-hexane*	110-54-3	203-777-6	-	> 0,1	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

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* This component was not added on purpose but is reported as important for classification.

4. FIRST AID MEASURES

- General information:

- First aid procedures

- after inhalation: Remove the person from dangerous area to fresh air.
In case of headache, dizziness, nausea and permanent complaints immediately seek medical attention.
In case of fainting transport in lateral position to hospital, paying attention to the free passing of the air thorough the respiratory tract.
In case of difficulty in breathing or respiratory arrest, open airways, initiate resuscitation (heart massage and artificial respiration) and immediately seek medical attention.
- after skin contact: Remove soaked clothes and shoes and flush the sites of contact thoroughly with water and soap for at least 10 to 15 minutes. In case of irritation, swelling or redness occurs seek medical advice.
- after eye contact: Remove contact lenses (if person has them) and flush the eyes with running water for at least 15 minutes. In case of irritation, blurred vision and swelling immediately seek medical attention.
- after ingestion: Do NOT induce vomiting! Do not give anything by mouth! Always assume aspiration into the lungs has occurred. If vomiting occurs, keep the head below the level of hips in order to prevent penetration into the lungs. Immediately seek medical attention.
- **Note to person administering first aid/ physician:** Risk of pulmonary oedema due to aspiration into the lungs. Administering oxygen only by trained medical personnel.

When transferring the afflicted person to hospital, take the instruction on medical care for poisoning with easily volatile solvents. Present the label from the packaging or the SDS.

5. FIRE FIGHTING MEASURES

- Extinguishing media

- SUITABLE: Foam and water mist, and dry powder, CO₂, sand and earth may be used for small fires only. When using dry powder and CO₂ (for initial fires, minor fires and indoor fires) attention is to be paid to the hazard of possible repeated flaring up of the fire after extinguishing.
- NOT SUITABLE: Do not use direct water jets on the burning product as they could cause a vapour explosion and spread of the fire.
- **Firefighting measures for special hazards:** Remove all ignition sources and, if necessary, call firemen and the police. Special care should be taken of the fact that there is a permanent danger of creation of explosive mixture with the air at room temperature. Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.

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- **Special firefighting measures:** Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam.
- **Special fire fighter protective equipment:** Wear protective clothing for firefighters (intervention suit) in accordance with HRN EN 469 and a self-contained open-circuit compressed air breathing apparatus in accordance with HRN EN 137.
- **Special hazards arising from the substance or mixture:** Vapours, being heavier than air, stay close to the ground and in recesses, spreads along the ground and distant ignition is possible. Vapours will float and can be reignited on surface water.
- **Advice for firefighters:** No data available.
- **Additional information:** No data available.

6. ACCIDENTAL RELEASE MEASURES

- **Personal precautions:** Ventilate thoroughly the premises at risk. Display a visible sign prohibiting entrance, use of open flame and sparking devices. Measure the concentration of gasoline vapours in the air, according to the regulations. Take precautionary measures against static electricity. Ensure electrical conductivity by connecting and grounding all equipment. Monitor the area with a combustible gas detector. Do not use electrical equipment. Do not breathe the fumes or vapour. Do not smoke. Stand upwind from the point of discharge. Use personal protective equipment referred to in section 8.
- **Environmental precautions:** Mark out the contaminated area with signs and prevent leaks and spills into watercourses, channels, drainage systems and soil by digging a protective ditch, setting up partitions made of bags of dry sand, soil or clay. Ensure good area ventilation. In case of larger spills 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 from soil with absorbents (sawdust, sand, mineral adsorbents or 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 for hazardous waste disposal, authorized by the Ministry in charge of environmental protection.

After removing the liquid, wash the product spillage location in the workspace with soapy water and then clean water.

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- Additional warnings:** Highly inflammable fluid and vapours!
- In order to protect the local sea area and port infrastructure against pollution, vessels shall be surrounded by a safety barrier. In case of major spills, notify the Port Authority and the National Protection and Rescue Directorate at the number 112.

7. HANDLING AND STORAGE

- Handling

- safety precautions: Handle in well-ventilated areas and keep away from food and beverages. Keep far from heat sources and eliminate all ignition sources. Never check the level in the tank near open flames, sparks or smoke. Never perform welding procedures in empty tanks without assessing the risks and taking precautionary measures. Do not use open flames near the tank area. Do not use sparking tools. Unload at unloading stations arranged according to the relevant regulations. Take specific care of the connections to prevent discharge into the sea or river. Observe safety and fire protection measures.

- safe handling advice: Prohibited smoking, eating, drinking as well as keeping food in areas where the product is handled. Personal clothes shall be kept separately from the work clothes and workplace. Obligatory wearing of the prescribed personal protective equipment defined in section 8. Extremely dirty, soaked or torn clothes must be immediately changed.

Strictly avoid contact with skin and eyes.

- **Storage:** technical measures and storage conditions:

- SUITABLE: Store in well-sealed tanks, properly manufactured and equipped. Provide room/area ventilation and appropriate temperature. Take measures against the static electricity charge. Ship containers shall be placed in a cool, well-ventilated place.

- TO BE AVOIDED: All other.

- Packaging materials

- RECOMMENDED: Prescribed for that purpose.

- NOT SUITABLE: Reloading into other tanks: replacement, damaged, or inadequate ones is not allowed.

- **Special use:** No data available.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1. Exposure limit values

Hazardous substance (CAS No.)	Occupational exposure limit values/short term values (OEL/STEL)		Biological limit values
	ppm	mg/m ³	
gasolines	100/-	300/-	no data
benzene (71-43-2)	1/-	3,25/-	0,12 ppm (in extremely exhaled air – smoking increases the finding)
n-hexane (110-54-3)	20/-	72/-	150 µg/L (in blood) 40 ppm (in extremely exhaled air)

- **Monitoring procedures:** No data available.

8.2. Exposure controls

- **Summary of risk management measures:** Measuring the concentration of benzene vapours in the air, according to the regulations. Appropriate measures include: using sealed systems as far as possible. It is necessary to ensure explosion-proof ventilation to maintain airborne concentrations below explosive limits. Local exhaust ventilation is recommended. Ensure an eyewash station and emergency showers.

8.2.1. Occupational exposure controls

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

Provide good ventilation of working premises/area.

- **Personal protective equipment**

- respiratory tract protection: If the concentration of hazardous substances is higher than permitted, concentration of hazardous substances is unknown or oxygen content is below allowed limit, use of protective half mask or full face mask (HRN EN 136/AC:2006) with a combined filter for organic gases/vapours (filter type A-P, boiling point > 65 °C) with threaded connection complying with the HRN EN 14387 and HRN EN 143-1 standards (boiling point > 65 °C) is mandatory. During the fire, use a self-sustained open-circuit compressed-air breathing apparatus (HRN EN 137).
- hand protection: Protective gloves made of stable and impervious material such as nitrile rubber or Viton (HRN EN 374-3) with breakthrough time > 240 minutes. If there is danger risk of ignition, use gloves as protection against thermal risks (HRN EN 407).
- eye protection: Protective goggles or a visor (HRN EN 166) at lower concentrations, and a protective mask at higher concentrations.
- skin and body protection: Protective clothing and footwear, nitrile rubber apron, chemical suit.

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- Special hygienic and safety precautions:**
- Maintain the prescribed hygiene standards for working with hazardous substances. Remove contaminated clothing and footwear. Inspect the equipment and devices regularly and maintain with running water.
- Do not smoke, eat, and drink when handling the product. Wash hands every time at the end of work.

8.2.2. Environmental exposure controls

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

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information:

- state: liquid
- colour: colourless
- odour: characteristic of gasoline
- odour threshold: No data available.

9.2. Important health, safety and environmental information:

- pH value (indicate conc. and temp.): No data available.
- boiling point/boiling range: °C 77,3 – 189,0
- flash point: °C < 0 (from literature)
- flammability (solid, gas): No data available.
- explosive properties: vol. % No data available.
- oxidizing properties: No data available.
- vapour pressure: kPa 15
- density at 15 °C: kg/m³ 739,0 – 762,5
- relative density: No data available.
- 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 40 °C: mm²/s 0,630 - 0,675
- vapour density at 15°C: kg/m³ No data available.
- volatility: No data available.

9.3. Other data:

- melting point/freezing point: °C No data available.
- disintegration temperature: °C No data available.
- auto ignition temperature: °C 280 to 470 °C (from literature)
- conductivity: pS/m 0 - 5

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10. STABILITY AND REACTIVITY

- **Reactivity:** Stable under recommended handling and storage conditions.
- **Chemical stability:** Stable under recommended handling and storage conditions.
- **Possibility of hazardous reactions:** No data available.
- **Conditions to avoid:** Remove all sources of heat, open flame and sparking.
- **Incompatible materials:** Halogens, strong acids, bases and strong oxidants.
- **Hazardous decomposition products:** None in standard operating conditions and in proper storage; however thermal decomposition may generate harmful gases, including carbon-monoxide (CO).

11. TOXICOLOGICAL INFORMATION

- **Information on toxicological effects:**
- **Acute toxicity**
 - oral (LD₅₀): > 5000 mg/kg (rat)
 - inhalation (LC₅₀): > 5,2 mg/L (4 hours, rat)
 - dermal (LD₅₀): > 2000 mg/kg mass (rabbit)
- **Irritation/Corrosion**
 - skin: Causes skin irritation (H315).
 - eyes: Transient eye irritation.
 - respiratory tract: Mild irritant to the respiratory system.
- **Sensitisation**
 - skin: No data available.
 - respiratory tract: No data available.
- **Aspiration hazard:** May be fatal if swallowed and enters airways (H304).
- **Other classic effects: (e.g. unconsciousness, particularly toxic metabolites, etc.):** High concentrations of vapours cause dizziness, headache. STOT SE hazard category 3, affects the central nervous system (inhalation).
- **Permanent effects due to acute or chronic exposure:** No data available.
- **Special effects**
 - mutagenicity: May cause genetic defects (H340).
 - carcinogenicity: May cause cancer (H350).
 - fertility decrease: No data available.
 - harmful effect on unborn child: Suspected of damaging the unborn child (H361d).

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- toxicity to reproduction: No data available.
- other (e.g. endocrine disruptors): No data available.
- STOT (SE): May cause drowsiness or dizziness (H336).
- STOT (RE): Based on available data, the criteria for classification are not met.
- **Prohibitions and restrictions:** No data available.
- **Other:** No data available.

12. ECOLOGICAL INFORMATION

12.1. Toxicity

- to aquatic organisms: LL₅₀=8,2 mg/L (96h), *Pimephales promelas*
EL₅₀=4,5 mg/L (48h), *Daphnia magna*
EL₅₀=3,1 mg/L (72h), *Selenastrum capricornutum*
- to ground organisms: No data available.
- to plants and land animals: No data available.

12.2. Persistence and degradability

- biodegradation: Not applicable.
- other degradation processes: Not applicable.
- degradation in wastewater: Not applicable.

12.3. Bioaccumulative potential

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

12.4. Mobility in soil

- Known or predicted distribution in environmental compartments: No data available. **Method:** No data available.
- surface tension: No data available.
- absorption/desorption: Not applicable.
- other physical and chemical properties: See section 9.

12.5. Results of PBT and vPvB assessment

- data from chemical safety report: Product is not PBT and vPvB.

12.6. Other adverse effects:

No data available.

13. DISPOSAL CONSIDERATIONS

- **Waste codes:** 13 07 02*
- **Waste treatment methods:** If possible, the waste shall be recovered. Otherwise, waste shall be disposed of in accordance with current legislation for waste disposal.
- **Waste from residues:** Product has no classic waste except in case of accidental release/ discharging in which case see section 6.
- **Contaminated packaging:** Not applicable.

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- Relevant provisions: Act on Sustainable Waste Management, Regulation on waste catalogue, Regulation on waste management.

14. TRANSPORT INFORMATION

- UN proper shipping name: PETROLEUM DISTILLATES, N.O.I. or PETROLEUM PRODUCTS, N.O.I.

- UN number: 1268

- Transport hazard class(es)

ADR/RID/ADN/ICAO/IATA: 3

IMDG: 3

- Packing group

ADR/RID/ADN/IMDG/ICAO/IATA: II

- Environmental hazards

ADR, RID, ADN, ICAO/IATA: Hazardous to environment.

IMDG: Maritime pollutant.

- Special precautions for user

ADR

Transport category: 2

Vehicle for tank carriage: FL

Tank code: LGBF

Tunnel restriction code: (D/E)

Label: 3

Classification code: F1

Hazard identification: 33

Special provisions: 640D, 363, 664.

ADN

Label: 3

Additional requirements/Remarks: 14, 27, 29.

Dangers: 3+(N1, N2, N3, CMR, F, S)

Equipment required: PP, EP, EX, TOX, A.

Classification code: F1

Carriage permitted: YES

Type of tank vessel: N/2

Anti-explosion protection required: YES

Maximum degree of filling in %: 97

ICAO

Label: 3

RID

Transport category: 2

Tank code: LGBF

Label: 3

Classification code: F1

Hazard identification: 33

Special provisions: 640D

IMDG

Subsidiary risk: Maritime pollutant.

Group of the cargo: Category B

Special provisions: 363

EmS: F-E, S-E

Segregation group: Category B

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Cargo IMP code: RFL
 Passenger and cargo aircraft: LQ 1L (PI Y341); 5L (PI 353)
 Cargo aircraft only: 60L (PI 364)
 ERG code: 3H

Transport in liquid/bulk condition according to MARPOL Convention, Annex II and IBC Codex

Trade name: Not applicable.
 Pollution category (according to MARPOL, Annex II): Not applicable.
 Vessel type (according to IBC Code): Not applicable.
 Special and operative requirements (according to IBC Code): Not applicable.

15. REGULATORY INFORMATION

- **Applicable EU regulations:** EU Regulation No. 1906/2007 of the European Parliament and the Council of December 18th, 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); EU Regulation No. 1272/2008 of the European Parliament and the Council of December 16th, 2008 on classification, labelling and packaging of substances and mixtures.
- **Applicable national regulations:** Chemicals Act; Regulations on Hazardous Substance Exposure Limit Values during Work and Biological Limit Values; Act on Sustainable Waste Management, Regulation on waste catalogue, Regulation on waste management.
- **Chemical Safety Assessment carried out (CSA):** YES NO
- **Authorization information:** -
- **Restriction information:** -

16. OTHER INFORMATION

Revision indicators

Section: **Subject of change:**

Completely new edition of SDS "Reformer feed", with changes in all sections.

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.
 H350 May cause cancer.
 H361d Suspected of damaging the unborn child.
 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.
 P273 Avoid release to the environment.

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P280	Wear protective gloves/protective clothing/eye protection/face protection.
P331	Do NOT induce vomiting.
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	Disposal of contents/container according to national regulations.

Abbreviations and acronyms:

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
CAS number	Chemical Abstract Service number
CLP	Classification, Labelling and Packaging of substances and mixtures
CSA	Chemical Safety Assessment
CSR	Chemical Safety Report
EC number	European Community number for identification of chemical substances commercially available in the EU
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code transport
LC ₅₀	Lethal concentration for 50% of tested organisms
LD ₅₀	Lethal concentration for 50% of tested organisms (medium lethal concentration)
OIN	Oil industry notes
PBT	Persistent, bioaccumulative and toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Regulations Concerning the International Transport of Dangerous Goods by Rail
STOT (SE)	Specific Target Organ Toxicity (Single Exposure)
STOT (RE)	Specific Target Organ Toxicity (Repeated Exposure)
UVCB	Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials
vPvB	Very persistent and very bioaccumulative

Statement:

This SDS is in compliance with the EU Regulation No. 1907/2006 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.

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Data source:

APPENDIX: EXPOSURE SCENARIOS ACCORDING TO CHEMICAL SAFETY REPORT