



NATIONAL LABORATORY OF
HEALTH, ENVIRONMENT AND FOOD

NON-HAZARDOUS WASTE ASSESSMENT

FOR COMPANY
JP VOKA SNAGA d.o.o.

WASTE OWNER
JP VOKA SNAGA d.o.o.

EWC
19 12 12

**other wastes (including mixtures of materials) from mechanical treatment of
wastes other than those mentioned in 19 12 11**

(LFB - Folija)

Title: Non-hazardous waste assessment for JP VOKA SNAGA d.o.o., EWC 19 12 12 - other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (LFB - Folija)

Contractor: National Laboratory of Health, Environment and Food
Environment and Health Centre
Water, Soil and Waste Section
Dalmatinova 2, 8000 Novo mesto, Slovenia

Contracting authority: JP VOKA SNAGA d.o.o.
Vodovodna cesta 90
1000 Ljubljana

Date of contract: 25.10.2022

Purchase order number: VKS-58/22

Declaration:

During the assessment of the waste, all the available data were used and considered, particularly those relating to the source of the waste (for the waste that resulted from a repeated and determinable production process, the deviations of the parameter values were also evaluated for the waste that resulted from normal changes in the waste creation process). In the process of waste investigation there were no available data from which it could be inferred that other substances had been mixed in with the waste and in doing so had affected the properties of the waste. This assessment is valid for the inspected and sampled volume of the waste.

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Inspection and sampling date: 3.11.2022

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1 Introduction

On the basis of the order from JP VOKA SNAGA d.o.o., we carried out a confirmation of the waste classification number with an analysis pursuant to the Regulation on waste (Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/22). Study of hazardous waste properties HP1 to HP15 was also made.

2 Sampling method

The waste was sampled in accordance with SIST EN 14899:2006 at first inspection. Description of sampling is annexed to this document.

3 Data on the waste holder, type and source of the waste

3.1 Waste holder: JP VOKA SNAGA d.o.o.

Address: Vodovodna 90

Post code: SI-1000 Ljubljana

Registration No.: 5046688000

3.2. Waste classification number: 19 12 12

Waste name: Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11 (Wrap from bulky waste)

3.3. Description of waste:

The waste is mostly grey, with variously colored impurities, with a weak smell of municipal waste. It is solid, heterogeneous and dry, with particle size of 100-500 mm. It is composed of: various wrap foil (90%), rubber (5%), textile (4%) and wood (1%). Net calorific value of the analyzed waste is 35046 kJ/kg of dry matter. Photograph of waste is presented in annex of this assessment.

3.4. Address of the facility that represents the source or location of the waste:

Generator: JP VOKA SNAGA d.o.o. RCERO Barje

Address: Cesta dveh cesarjev 101

Post code: 1000 Ljubljana

3.5. Description of the waste:

Municipal household waste (MHW) is collected and treated in RCERO Ljubljana to procedures D8 and D9. MHW, waste from production/service activities and bulky waste is also mechanically treated. MHW is delivered by the waste collection trucks to the deep bunker with approximately 5.000 m³ of volume. Two bridge cranes with motor grab serve the two feeding hoppers for the mechanical pre-treatment lines. The feeding hoppers are heavy duty moving floors dosing the primary MHW shredders.

The shredded MHW is then passing a drum screen where is separated by the sieve in three sizes:

- fine fraction (approx. <90 mm)
- medium fraction (90 mm to 250 mm)
- oversize fraction (>250mm)

The oversize fraction above 250 mm is conveyed through air and magnetic separator to bulky waste storage area, where it enters the bulky waste shredder. This shredded fraction was named 'LFB-Folija', since it is composed mostly from plastic wraps, and possesses high caloric value and low moisture levels.

3.5.1. Quantity of waste analyzed: ≈ 50 m³.

3.5.2. Sample code:

Field code: SL 61.

Task report: 2022/111509 (Task report 2830-22/104377-22/111509/2).

4 Waste properties

4.1. State of the waste and other special properties:

4.1.1. State of the waste at 20°C:

| | | | |
|--|---|---|---|
| <input type="checkbox"/> liquid | <input type="checkbox"/> homogeneous | <input type="checkbox"/> powder-like | <input checked="" type="checkbox"/> dry |
| <input type="checkbox"/> dense liquid/paste-like | <input checked="" type="checkbox"/> non-homogeneous | <input checked="" type="checkbox"/> grained/bulky | <input type="checkbox"/> moist |
| <input type="checkbox"/> sludgy | <input type="checkbox"/> dispersion | <input type="checkbox"/> in a lump | <input type="checkbox"/> hygroscopic |
| <input checked="" type="checkbox"/> solid | <input type="checkbox"/> emulsion | <input type="checkbox"/> wrapped | |

4.1.2. Hazardous properties (HP1–HP15)*: ☐ YES ☒ NO

| | | | |
|------------------------------|------------------------------|-------------------------------|-------------------------------|
| <input type="checkbox"/> HP1 | <input type="checkbox"/> HP5 | <input type="checkbox"/> HP9 | <input type="checkbox"/> HP13 |
| <input type="checkbox"/> HP2 | <input type="checkbox"/> HP6 | <input type="checkbox"/> HP10 | <input type="checkbox"/> HP14 |
| <input type="checkbox"/> HP3 | <input type="checkbox"/> HP7 | <input type="checkbox"/> HP11 | <input type="checkbox"/> HP15 |
| <input type="checkbox"/> HP4 | <input type="checkbox"/> HP8 | <input type="checkbox"/> HP12 | |

4.2. Color: Grey , with variously colored impurities

4.3. Smell: ☐ strong ☒ faint ☐ none
☐ odour: municipal household waste

4.4. Reactivity:

| | | |
|--|---|--|
| <input type="checkbox"/> inert | <input type="checkbox"/> highly flammable | <input type="checkbox"/> chemically unstable |
| <input type="checkbox"/> reacts with air | <input type="checkbox"/> accelerates combustion | <input type="checkbox"/> biodegradable |
| <input type="checkbox"/> reacts with water | <input checked="" type="checkbox"/> combustible | <input type="checkbox"/> gas forming |
| <input type="checkbox"/> it reacts with acid/lye | <input type="checkbox"/> incombustible | <input type="checkbox"/> danger of explosion |

4.5. Water solubility: ☐ highly soluble ☐ partially soluble
☒ slightly soluble ☐ insoluble

4.6. Safety precautions:

4.6.1. Handling in temporary storage:

| | |
|-------------------------------------|---|
| Technical-safety precautions: | Store in closed containers |
| Personal protective equipment: | Personal means of protection (respirator, clothing, gloves, footwear) |
| Fire and explosion safety: | Waste is combustible, but not spontaneously combustible |
| Protection against water pollution: | Prevent contact with water and remove the material in case of wastage |

4.6.2. Protection against accidents and fires:

Measures in the event of wastage: Waste should be collected into the container using the appropriate tools

Appropriate extinguishing agent: standard extinguishing agents (water, dust, CO₂).

Extinguishing agents that must not be used:

/

Useful binder:

/

4.7. **Physical properties:**

Density or bulk density at room temperature:

/

kg/m³

Range of particle/piece size:

100-500

mm

4.8. **Description of the preliminary processing of waste or justification for the omission of preliminary waste processing:**

Described in 3.5.

4.9. **Prohibition of waste mixing:**

Waste is not hazardous

5 Grounds for the determination of a waste classification number

The waste is classified into groups according to the classification list of waste as defined in Article 4 of the Regulation on waste (Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/22).

Individual waste, given the nature of the occurrence be classified in the group and sub-group of waste with the waste classification list, as provided in Article 4 of the Regulation on waste (Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/22), so that the waste is assigned with classification number of waste. If the waste under Article 5 of the Regulation on waste (Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/22) be classified as hazardous or non-hazardous waste, it should be classified as hazardous waste unless the data on the composition of the waste and the concentration of hazardous substances or on the basis of its analysis shown to have none of the hazardous properties. Waste is not showing dangerous properties as the composition does not contain any hazardous substances. None hazardous properties from HP1 to HP15 were detected during the study of the waste input resources and production process. The study of hazardous properties is attached to this assessment.

According to the source and composition, the waste in question has been classified into waste group:

- | | |
|-----------------|---|
| 19 | Wastes from waste management facilities, off-site waste water treatment plants and the preparation of water intended for human consumption and water for industrial use |
| 19 12 | Wastes from the mechanical treatment of waste (for example sorting, crushing, compacting, palletizing) not otherwise specified |
| <u>19 12 12</u> | <u>Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11</u> |

6 Annex

1. Report on the study of hazardous waste properties;
2. Task report 2830-22/104377-22/111509/2.

7 List of literature used

1. Regulation on waste (Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/22).



Report on the study of hazardous waste properties
for company JP VOKA SNAGA d.o.o., Vodovodna cesta 90, 1000 Ljubljana

EWG 19 12 12 - Other wastes (including mixtures of materials) from mechanical treatment of wastes other than those mentioned in 19 12 11

The report on the study of hazardous waste properties was carried out on the basis of:

- obtained documentation
- test results

☒ Yes ☐ No
☒ Yes ☐ No

- o Task report 2830-22/104377-22/111509/2.

HP 1 – Explosive

Contains a dangerous property HP 1 ☐ Yes ☒ No

Waste which is capable by chemical reaction of producing gas at such a temperature and pressure and at such a speed as to cause damage to the surroundings. Pyrotechnic waste, explosive organic peroxide waste and explosive self-reactive waste is included.

Table 1: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents for the classification of wastes as hazardous by HP 1:

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Determined in waste |
|-----------------------------------|--------------------------|------------------------------|
| Unst. Expl. | H 200 | <input type="checkbox"/> Yes |
| Expl. 1.1 | H 201 | <input type="checkbox"/> Yes |
| Expl. 1.2 | H 202 | <input type="checkbox"/> Yes |
| Expl. 1.3 | H 203 | <input type="checkbox"/> Yes |
| Expl. 1.4 | H 204 | <input type="checkbox"/> Yes |
| Self-react. A | H 240 | <input type="checkbox"/> Yes |
| Org. Perox. A | | <input type="checkbox"/> Yes |
| Self-react. B | H 241 | <input type="checkbox"/> Yes |
| Org. Perox. B | | <input type="checkbox"/> Yes |

When a waste contains one or more substances classified by one of the hazard class and category codes and hazard statement codes shown in Table 1, the waste shall be assessed for HP 1, where appropriate and proportionate, according to test methods. If the presence of a substance, a mixture or an article indicates that the waste is explosive, it shall be classified as hazardous by HP 1.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 1. Waste does not contain hazardous properties of HP 1.

HP 2 – Oxidizing

Contains a dangerous property HP 2 ☐ Yes ☒ No

Waste which may, generally by providing oxygen, cause or contribute to the combustion of other materials.

Table 2: Hazard Class and Category Code(s) and Hazard statement Code(s) for the classification of wastes as hazardous by HP 2:

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Determined in waste |
|-----------------------------------|--------------------------|------------------------------|
| Ox. Gas 1 | H 270 | <input type="checkbox"/> Yes |
| Ox. Liq. 1 | H 271 | <input type="checkbox"/> Yes |
| Ox. Sol. 1 | | <input type="checkbox"/> Yes |
| Ox. Liq. 2, Ox. Liq. 3 | H 272 | <input type="checkbox"/> Yes |
| Ox. Sol. 2, Ox. Sol. 3 | | <input type="checkbox"/> Yes |

When a waste contains one or more substances classified by one of the hazard class and category codes and hazard statement codes shown in Table 2, the waste shall be assessed for HP 2, where appropriate and proportionate, according to test methods. If the presence of a substance indicates that the waste is oxidizing, it shall be classified as hazardous by HP 2.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 2. Waste does not contain hazardous properties of HP 2.

HP 3 – Flammable

Contains a dangerous property HP 3 ☐ Yes ☒ No

- flammable liquid waste: liquid waste having a flash point below 60 °C or waste gas oil, diesel and light heating oils having a flash point > 55 °C and ≤ 75 °C ☐ Yes
- flammable pyrophoric liquid and solid waste: solid or liquid waste which, even in small quantities, is liable to ignite within five minutes after coming into contact with air ☐ Yes
- flammable solid waste: solid waste which is readily combustible or may cause or contribute to fire through friction ☐ Yes
- flammable gaseous waste: gaseous waste which is flammable in air at 20 °C and a standard pressure of 101.3 kPa ☐ Yes
- water reactive waste: waste which, in contact with water, emits flammable gases in dangerous quantities ☐ Yes
- other flammable waste: flammable aerosols, flammable self-heating waste, flammable organic peroxides and flammable self-reactive waste. ☐ Yes

Table 3: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents for the classification of wastes as hazardous by HP 3:

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Determined in waste |
|-----------------------------------|--------------------------|------------------------------|
| Flam. Gas 1 | H220 | <input type="checkbox"/> Yes |
| Flam. Gas 2 | H221 | <input type="checkbox"/> Yes |
| Aerosol 1 | H222 | <input type="checkbox"/> Yes |
| Aerosol 2 | H223 | <input type="checkbox"/> Yes |
| Flam. Liq. 1 | H224 | <input type="checkbox"/> Yes |
| Flam. Liq. 2 | H225 | <input type="checkbox"/> Yes |
| Flam. Liq. 3 | H226 | <input type="checkbox"/> Yes |
| Flam. Sol. 1 | H228 | <input type="checkbox"/> Yes |
| Flam. Sol. 2 | | <input type="checkbox"/> Yes |
| Self-react. CD | | <input type="checkbox"/> Yes |
| Self-react. EF | | <input type="checkbox"/> Yes |
| Org. Perox. CD | H242 | <input type="checkbox"/> Yes |
| Org. Perox. EF | | <input type="checkbox"/> Yes |
| Pyr. Liq. 1 | H250 | <input type="checkbox"/> Yes |
| Pir. Sol. 1 | | <input type="checkbox"/> Yes |
| Self-heat. 1 | H251 | <input type="checkbox"/> Yes |
| Self-heat. 2 | H252 | <input type="checkbox"/> Yes |
| Water-react. 1 | H260 | <input type="checkbox"/> Yes |
| Water-react. 2 | H261 | <input type="checkbox"/> Yes |
| Water-react. 3 | | <input type="checkbox"/> Yes |

When a waste contains one or more substances classified by one of the following hazard class and category codes and hazard statement codes shown in Table 3, the waste shall be assessed, where appropriate and proportionate, according to test methods. If the presence of a substance indicates that the waste is flammable, it shall be classified as hazardous by HP 3.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 3. Waste does not contain hazardous properties of HP 3.

HP 4 – Irritant - skin irritation and eye damage

Contains a dangerous property HP 4 ☐ Yes ☒ No

Waste which on application can cause skin irritation or damage to the eye.

The cut-off value for consideration in an assessment for Skin corr. 1A (H314), Skin irrit. 2 (H315), Eye dam. 1 (H318) and Eye irrit. 2 (H319) is 1 %.

If the sum of the concentrations of all substances classified as Skin corr. 1A (H314) exceeds or equals 1 %, the waste shall be classified as hazardous according to HP 4.

If the sum of the concentrations of all substances classified as H318 exceeds or equals 10 %, the waste shall be classified as hazardous according to HP 4.

If the sum of the concentrations of all substances classified H315 and H319 exceeds or equals 20 %, the waste shall be classified as hazardous according to HP 4.

☐ Exceeding

☐ Exceeding

☐ Exceeding

☐ Exceeding

Note: Wastes containing substances classified as H314 (Skin corr.1A, 1B or 1C) in amounts greater than or equal to 5 % will be classified as hazardous by HP 8. HP 4 will not apply if the waste is classified as HP 8.

When a waste contains one or more substances in concentrations above the cut-off value, that are classified by one of the following hazard class and category codes and hazard statement codes and one or more of the following concentration limits is exceeded or equaled, the waste shall be classified as hazardous by HP 4.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard. Also no limit is exceeded. Waste does not contain hazardous properties of HP 4.

HP 5 – Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

Contains a dangerous property HP 5 ☐ Yes ☒ No

Waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.

Table 4: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents and the corresponding concentration limits for the classification of wastes as hazardous by HP 5:

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Determined in waste |
|-----------------------------------|--------------------------|------------------------------|
| STOT SE 1 | H370 | <input type="checkbox"/> Yes |
| STOT SE 2 | H371 | <input type="checkbox"/> Yes |
| STOT SE 3 | H335 | <input type="checkbox"/> Yes |
| SOTT RE 1 | H372 | <input type="checkbox"/> Yes |
| STOT RE 2 | H373 | <input type="checkbox"/> Yes |
| Asp. Tox. 1 | H304 | <input type="checkbox"/> Yes |

When a waste contains one or more substances classified by one or more of the following hazard class and category codes and hazard statement codes shown in Table 4, and one or more of the concentration limits in Table 4 is exceeded or equaled, the waste shall be classified as hazardous according to HP 5. When substances classified as STOT are present in a waste, an individual substance has to be present at or above the concentration limit for the waste to be classified as hazardous by HP 5.

When a waste contains one or more substances classified as Asp. Tox. 1 and the sum of those substances exceeds or equals the concentration limit, the waste shall be classified as hazardous by HP 5 only where the overall kinematic viscosity (at 40 °C) does not exceed 20.5 mm²/s (for fluids).

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 4. Waste does not contain hazardous properties of HP 5.

HP 6 – Acute toxicity

Contains a dangerous property HP 6 ☐ Yes ☒ No

Waste which can cause acute toxic effects following oral or dermal administration, or inhalation exposure.

The following cut-off values shall apply for consideration in an assessment:

- For Acute Tox. 1, 2 or 3 (H300, H310, H330, H301, H311, H331): 0.1 %
- For Acute Tox. 4 (H302, H312, H332): 1 %

Table 5: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents and the corresponding concentration limits for the classification of wastes as hazardous by HP 6:

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Concentration limit | Determined in waste |
|-----------------------------------|--------------------------|---------------------|------------------------------|
| Acute Tox. 1 (Oral) | H300 | 0,1 % | <input type="checkbox"/> Yes |
| Acute Tox. 2 (Oral) | H300 | 0,25 % | <input type="checkbox"/> Yes |
| Acute Tox. 3 (Oral) | H301 | 5 % | <input type="checkbox"/> Yes |
| Acute Tox. 4 (Oral) | H302 | 25 % | <input type="checkbox"/> Yes |
| Acute Tox. 1 (Dermal) | H310 | 0,25 % | <input type="checkbox"/> Yes |
| Acute Tox. 2 (Dermal) | H310 | 2,5 % | <input type="checkbox"/> Yes |
| Acute Tox. 3 (Dermal) | H311 | 15 % | <input type="checkbox"/> Yes |
| Acute Tox. 4 (Dermal) | H312 | 55 % | <input type="checkbox"/> Yes |
| Acute Tox. 1 (Inhal.) | H330 | 0,1 % | <input type="checkbox"/> Yes |
| Acute Tox. 2 (Inhal.) | H330 | 0,5 % | <input type="checkbox"/> Yes |
| Acute Tox. 3 (Inhal.) | H331 | 3,5 % | <input type="checkbox"/> Yes |
| Acute Tox. 4 (Inhal.) | H332 | 22,5 % | <input type="checkbox"/> Yes |

If the sum of the concentrations of all substances contained in a waste, classified with an acute toxic hazard class and category code and hazard statement code given in Table 5, exceeds or equals the threshold given in that table, the waste shall be classified as hazardous by HP 6. When more than one substance classified as acute toxic is present in a waste, the sum of the concentrations is required only for substances within the same hazard category.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 5. Waste does not contain hazardous properties of HP 6.

HP 7 – Carcinogenic

Contains a dangerous property HP 7 ☐ Yes ☒ No

Waste which induces cancer or increases its incidence.

Table 6: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents and the corresponding concentration limits for the classification of wastes as hazardous by HP 7:



| Hazard Class and Category Code(s) | Hazard statement Code(s) | Concentration limit | Determined in waste |
|-----------------------------------|--------------------------|---------------------|------------------------------|
| Carc. 1A | H350 | 0,1 % | <input type="checkbox"/> Yes |
| Carc. 1B | | | <input type="checkbox"/> Yes |
| Carc. 2 | H351 | 1,0 % | <input type="checkbox"/> Yes |

When a waste contains a substance classified by one of the following hazard class and category codes and hazard statement codes and exceeds or equals one of the following concentration limits shown in Table 6, the waste shall be classified as hazardous by HP 7. When more than one substance classified as carcinogenic is present in a waste, an individual substance has to be present at or above the concentration limit for the waste to be classified as hazardous by HP 7.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 6 and also exceeding concentration limit. Waste does not contain hazardous properties of HP 7.

HP 8 – Corrosive

Contains a dangerous property HP 8 ☐ Yes ☒ No

Waste which on application can cause skin corrosion.

When a waste contains one or more substances classified as Skin corr.1A, 1B or 1C (H314) and the sum of their concentrations exceeds or equals 5 %, the waste shall be classified as hazardous by HP 8.

The cut-off value for consideration in an assessment for Skin corr. 1A, 1B, 1C (H314) is 1.0 %.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard and also exceeding concentration limit. Waste does not contain hazardous properties of HP 8.

HP 9 – Infectious

Contains a dangerous property HP 9 ☐ Yes ☒ No

Waste containing viable micro-organisms or their toxins which are known or reliably believed to cause disease in man or other living organisms.

Table 7: Parameters, analyzed for HP 9 determination:

| Parameter | Unit | Limit value | Results |
|--------------------------------|---------|------------------|---------|
| Thermo tolerant campylobacters | in 25 g | does not contain | - |
| Salmonella | in 25 g | does not contain | - |
| Shigellae | in 25 g | does not contain | - |
| Pathogenic Yersinia | in 25 g | does not contain | - |

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that are listed in table 7. Waste does not contain hazardous properties of HP 9.

HP 10 – Toxic for reproduction

Contains a dangerous property HP 10 ☐ Yes ☒ No

Waste which has adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring.

Table 8: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents and the corresponding concentration limits for the classification of wastes as hazardous by HP 10:

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Concentration limit | Determined in waste |
|-----------------------------------|--------------------------|---------------------|------------------------------|
| Repr. 1A | H360 | 0,3 % | <input type="checkbox"/> Yes |
| Repr. 1B | | | <input type="checkbox"/> Yes |
| Repr. 2 | H361 | 3,0 % | <input type="checkbox"/> Yes |

When a waste contains a substance classified by one of the following hazard class and category codes and hazard statement codes and exceeds or equals one of the following concentration limits shown in Table 8, the waste shall be classified hazardous according to HP 10. When more than one substance classified as toxic for reproduction is present in a waste, an individual substance has to be present at or above the concentration limit for the waste to be classified as hazardous by HP 10.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 8 and also exceeding concentration limit. Waste does not contain hazardous properties of HP 10.

HP 11 – Mutagenic

Contains a dangerous property HP 11 ☐ Yes ☒ No

Waste which may cause a mutation, which is a permanent change in the amount or structure of the genetic material in a cell.

Table 9: Hazard Class and Category Code(s) and Hazard statement Code(s) for waste constituents and the corresponding concentration limits for the classification of wastes as hazardous by HP 11

| Hazard Class and Category Code(s) | Hazard statement Code(s) | Concentration limit | Determined in waste |
|-----------------------------------|--------------------------|---------------------|------------------------------|
| Muta. 1A | H340 | 0,1 % | <input type="checkbox"/> Yes |
| Muta. 1B | | | <input type="checkbox"/> Yes |
| Muta. 2 | H341 | 1,0 % | <input type="checkbox"/> Yes |

When a waste contains a substance classified by one of the following hazard class and category codes and hazard statement codes and exceeds or equals one of the following concentration limits shown in Table 9, the waste shall be classified as hazardous according to HP 11. When more than one substance classified as mutagenic is present in a waste, an individual substance has to be present at or above the concentration limit for the waste to be classified as hazardous by HP 11.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table 9 and also exceeding concentration limit. Waste does not contain hazardous properties of HP 11.

HP 12 – Release of an acute toxic gas:

Contains a dangerous property HP 12 ☐ Yes ☒ No

Waste which releases acute toxic gases (Acute Tox. 1, 2 or 3) in contact with water or an acid.

When a waste contains a substance assigned to one of the following supplemental hazards EUH029, EUH031 and EUH032, it shall be classified as hazardous by HP 12 according to test methods or guidelines.



Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class EUH029, EUH031 or EUH032. Waste does not contain hazardous properties of HP 12.

HP 13 – Sensitizing

Contains a dangerous property HP 13 ☐ Yes ☒ No

Waste which contains one or more substances known to cause sensitizing effects to the skin or the respiratory organs.

When a waste contains a substance classified as sensitising and is assigned to one of the hazard statement codes H317 or H334 and one individual substance equals or exceeds the concentration limit of 10 %, the waste shall be classified as hazardous by HP 13.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class H317 or H334 and also exceeding concentration limit of 10% for one substance. Waste does not contain hazardous properties of HP 13.

HP 14 – Ecotoxic

Contains a dangerous property HP 14 ☐ Yes ☒ No

Waste which presents or may present immediate or delayed risks for one or more sectors of the environment.

Waste which fulfils any of the following conditions shall be classified as hazardous by HP 14:

- Waste which contains a substance classified as ozone depleting assigned the hazard statement code H420 in accordance with Regulation (EC) No 1272/2008 of the European Parliament and of the Council (*) and the concentration of such a substance equals or exceeds the concentration limit of 0,1 %.

$$[c(H420) \geq 0,1 \%]$$

- Waste which contains one or more substances classified as aquatic acute assigned the hazard statement code H400 in accordance with Regulation (EC) No 1272/2008 and the sum of the concentrations of those substances equals or exceeds the concentration limit of 25 %. A cut-off value of 0,1 % shall apply to such substances.

$$[\Sigma c (H400) \geq 25 \%]$$

- Waste which contains one or more substances classified as aquatic chronic 1, 2 or 3 assigned to the hazard statement code(s) H410, H411 or H412 in accordance with Regulation (EC) No 1272/2008, and the sum of the concentrations of all substances classified as aquatic chronic 1 (H410) multiplied by 100 added to the sum of the concentrations of all substances classified as aquatic chronic 2 (H411) multiplied by 10 added to the sum of the concentrations of all substances classified as aquatic chronic 3 (H412) equals or exceeds the concentration limit of 25 %. A cut-off value of 0,1 % applies to substances classified as H410 and a cut-off value of 1 % applies to substances classified as H411 or H412.

$$[100 \times \Sigma c (H410) + 10 \times \Sigma c (H411) + \Sigma c (H412) \geq 25 \%]$$

- Waste which contains one or more substances classified as aquatic chronic 1, 2, 3 or 4 assigned the hazard statement code(s) H410, H411, H412 or H413 in accordance with Regulation (EC) No 1272/2008, and the sum of the concentrations of all substances classified as aquatic chronic equals or exceeds the concentration limit of 25 %. A cut-off value of 0,1 % applies to substances classified as H410 and a cut-off value of 1 % applies to substances classified as H411, H412 or H413.

$$[\Sigma c H410 + \Sigma c H411 + \Sigma c H412 + \Sigma c H413 \geq 25 \%]$$

Where: Σ = sum and c = concentrations of the substances.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class H4xx and also exceeding upper limits. Waste does not contain hazardous properties of HP 14.

HP 15 – Waste capable of exhibiting a hazardous property listed above not directly displayed by the original waste
Contains a dangerous property HP 15 ☐ Yes ☒ No

Table 10: Hazard statements and supplemental hazards for waste constituents for the classification of wastes as hazardous by HP 15:

| Hazard Statement(s)/Supplemental Hazard(s) | | Determined in waste |
|---|--------|------------------------------|
| May mass explode in fire | H205 | <input type="checkbox"/> Yes |
| Explosive when dry | EUH001 | <input type="checkbox"/> Yes |
| May form explosive peroxides | EUH019 | <input type="checkbox"/> Yes |
| Risk of explosion if heated under confinement | EUH044 | <input type="checkbox"/> Yes |

When a waste contains one or more substances assigned to one of the hazard statements or supplemental hazards shown in Table 10, the waste shall be classified as hazardous by HP 15, unless the waste is in such a form that it will not under any circumstance exhibit explosive or potentially explosive properties.

Findings:

According to the technologies of waste formation, inspection of incoming materials, composition of the waste and the analyses of the examined waste, we note that this waste does not contain any of the substances that could be classified by one of the marks of the hazard class and the codes for the hazard shown in Table. Waste does not contain hazardous properties of HP 15.

STATEMENT

Based on the research of hazardous properties carried out and in accordance with Regulation on waste (Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/22), we have established that the waste in question is classified as non-hazardous waste with the classification number 19 12 12. The waste does not contain hazardous properties.

Prepared by: **Sebastijan Lamut, mag. ekol. biod.**

List of literature used:

- Regulation of waste, Official Gazette of the Republic of Slovenia, no. 37/15, 69/15, 129/20, 44/22 – ZVO-2 and 77/2
- Council Directive (EU) No. 1357/2014, 18.12.2014
- Directive 2008/98/EC of the European Parliament and of the Council
- Regulation(EC) No. 1272/2008 of the European Parliament and of the European Council
- <http://echa.europa.eu/>



Task report

JP VOKA SNAGA - Monitoring odpadkov RCERO Ljubljana 2022-2024

Task report 2830-22/104377-22/111509/2 completely replaces Task report 2830-22/104377-22/111509/1, dated 20.03.2023.

This task report matches its previous version (2830-22/104377-22/111509/1). New version in english language was issued specifically on clients request.

Evidence code: 2830-22/104377-22/111509/2

Customer: JAVNO PODJETJE VODOVOD KANALIZACIJA SNAGA D.O.O.
VODOVODNA CESTA 90
1000 Ljubljana

Request: N 4500297245, 14.07.2022

Contractor: Department for Groundwater and Surface Water, Waste and Soil
Department for Chemical Analysis of Food, Water and Other Environmental Samples
Novo mesto
Department for Chemical Analysis of Food, Water and Other Environmental Samples
Kranj

The power: MOP 35445-38/2022-2550-4

Head of task: Sebastijan Lamut, mag. ekol. biod.

Maribor, 26.05.2023

Department for Groundwater and Surface Water,
Waste and Soil
Head of task:

Sebastijan Lamut, mag. ekol. biod.

The time of the certified signature of deputy and information about the certificate are shown at the top of the first page of the document.

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Document authenticity check on: <http://www.nlzoh.si/istovetnost>.



Sample information

Sample: JP VOKA SNAGA d.o.o. - 19 12 12 (SL 61)
Sample number: 22/111509
Purpose: Analysis on owner request
Customer: JAVNO PODJETJE VODOVOD KANALIZACIJA SNAGA D.O.O., VODOVODNA
CESTA 90, 1000 Ljubljana
Sample taken by: Sebastijan Lamut, NLZOH OPPVOT
Time of sampling: 03.11.2022 13:00
Place of sampling: JP VOKA SNAGA d.o.o., JP VOKA SNAGA d.o.o. - 19 12 12
Sample received by: Sebastijan Lamut
Place and time of receiving: Novo mesto, 04.11.2022 07:06

Report annexes:

Testing report with evidence code 2830-22/104377-22/111509-T/2

Report of chemical analyses with evidence code 1072-22/104377-22/111509-K/1



Testing report

Testing report 2830-22/104377-22/111509-T/2 completely replaces Testing report 2830-22/104377-22/111509-T/1, dated 20. 03. 2023.

This task report matches its previous version (2830-22/104377-22/111509/1). New version in english language was issued specifically on clients request.

Sample: JP VOKA SNAGA d.o.o. - 19 12 12 (SL 61)
Matrix: Waste (eluates)
Sample number: 22/111509
Purpose: Analysis on owner request
Title: JP VOKA SNAGA - Monitoring odpadkov RCERO Ljubljana 2022-2024
Head of task: Sebastijan Lamut, mag. ekol. biod.
Customer: JAVNO PODJETJE VODOVOD KANALIZACIJA SNAGA D.O.O., VODOVODNA CESTA 90, 1000 Ljubljana
Request: N 4500297245, 14.07.2022
Sampling plan: DN 182895, 03.11.2022
Place of sampling: JP VOKA SNAGA d.o.o., JP VOKA SNAGA d.o.o. - 19 12 12
Methodology of sampling: SIST EN 14899:2006
Sample status: The sample complies with criteria for the reception
Sampling **Sample receiving** **Issue date:** 26.05.2023
Date and hour: 03.11.2022 13:00 **Date and hour:** 04.11.2022 07:06
Taken by: Sebastijan Lamut, NLZOH OPPVOT **Received by:** Sebastijan Lamut
Picture or scheme of the location of sampling:



19 12 12 - Foil



Description of sampling

Sampling was made, according to SIST EN 14899:2006.

Sampled waste had EWC 19 12 12 and approximately 50 cubic meters; it was stored inside RCERO Barje in the mechanical sorting plant (see photo of sampling site).

Sampling was carried out with an INOX sampling shovel (OPR-OPPVOT-EOT-NM-140) and the company's front loader. A representative sample was collected from 24 increments, each of which was 1 liter in volume. Increments were taken from different places and depths of the heap of aforementioned waste.

The sample was homogenized and filled in according packaging unit - it was stored in a cool and dark place prior to its laboratory analyses.

Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|-----------------------|--|------------------|------|-----------------|---------------------------|----------------------|
| Waste analysis | | | | | | |
| Composition | | # | # | | Laboratorijska metoda, NM | 07.11.22 03.01.23 |
| | - Wood = 1% - Various foil = 90% - Rubber = 5% - Textile = 4% - Other = 0% | | | | | |



**NATIONAL LABORATORY OF
HEALTH, ENVIRONMENT AND FOOD**
CENTRE FOR ENVIRONMENT AND HEALTH

Evidence code:2830-22/104377-22/111509-T/2

Head of task:
Sebastijan Lamut, mag. ekol. biod.

Electronically signed by deputy Sebastijan Lamut, mag. ekol. biod. at 26.05.2023
08:59:53

Results refer only to the sampled sample. The test report shall not be reproduced except in full without written approval of the department. It should not be used for advertising purposes.
The sample was kept in accordance to the requirements until testing. All additional information on testing is available at the department.



Evidence code: 1072-22/104377-22/111509-K/1

Report of chemical analyses

Report of chemical analyses 1072-22/104377-22/111509-K/1 completely replaces Report of chemical analyses 1072-22/104377-22/111509-K, dated 3.01.2023.

Error copying data from sampling record.

Sample: JP VOKA SNAGA d.o.o. - 19 12 12 (SL 61)
Matrix: Waste (eluates)
Sample number: 22/111509
Purpose: Analysis on owner request
Title: JP VOKA SNAGA - Monitoring odpadkov RCERO Ljubljana 2022-2024
Head of task: Sebastijan Lamut, mag. ekol. biod.
Customer: JAVNO PODJETJE VODOVOD KANALIZACIJA SNAGA D.O.O., VODOVODNA CESTA 90, 1000 Ljubljana
Request: /
Place of sampling: JP VOKA SNAGA d.o.o., JP VOKA SNAGA d.o.o. - 19 12 12
Sample status: The sample complies with criteria for the reception
Sampling **Sample receiving** **Issue date:** 25.05.2023
Date and hour: 03.11.2022 13:00 **Date and hour:** 04.11.2022 07:06
Taken by: Sebastijan Lamut, NLZOH OPPVOT **Received by:** Sebastijan Lamut

Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|-----------------------------------|-------------|------------------|------|-----------------|-------------------------------|----------------------|
| Analysis of eluates | | | | | | |
| Phenol Index | 0.073 | | mg/L | | ISO 14402:1999(E)-point 4, NM | 08.11.22 10.11.22 |
| Fluoride | 0.14 | | mg/L | F | ISO 10359-1:1992, NM | 23.11.22 23.11.22 |
| Adsorbable organic halogens - AOX | 0.12 | | mg/L | Cl | SIST EN ISO 9562: 2005, NM | 17.11.22 17.11.22 |
| Aluminium | 0.35 | | mg/L | Al | ISO 17294-2, modified, NM | 23.11.22 23.11.22 |
| Antimony | 0.0097 | | mg/L | Sb | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Arsenic | 0.0062 | | mg/L | As | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Copper | 0.0091 | | mg/L | Cu | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Barium | <0.32 | | mg/L | Ba | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Beryllium | <0.0005 | <0.0002 # | mg/L | Be | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Boron | 0.77 | | mg/L | B | ISO 17294-2, modified, NM | 23.11.22 23.11.22 |
| Zinc | 1.1 | | mg/L | Zn | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Cadmium | <0.0005 | <0.0002 # | mg/L | Cd | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |



Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|-----------------------|----------------|---------------------|------------|--------------------|---|----------------------|
| Cobalt | 0.025 | | mg/L | Co | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Tin | 0.0023 | | mg/L | Sn | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Chromium | 0.015 | | mg/L | Cr | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Manganese | 1.4 | | mg/L | Mn | ISO 17294-2, modified, NM | 23.11.22 23.11.22 |
| Molybdenum | 0.0076 | | mg/L | Mo | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Nickel | 0.014 | | mg/L | Ni | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Selenium | <0.001 | | mg/L | Se | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Silver | <0.001 | <0.0002 # | mg/L | Ag | ISO 17294-2, modified, NM | 23.11.22 23.11.22 |
| Lead | <0.005 | | mg/L | Pb | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Thallium | <0.0050 | # | mg/L | Tl | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Tellurium | <0.0050 | # | mg/L | Te | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Vanadium | 0.0014 | | mg/L | V | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Iron | 2.4 | #* | mg/L | Fe | ISO 17294-2, modified, NM | 14.11.22 14.11.22 |
| Mercury | <0.0001 | | mg/L | Hg | SIST EN ISO 12846, modification in point 5, without chapter 7, NM | 08.11.22 11.11.22 |
| Total Cyanide | <0.01 | | mg/L | CN | SIST EN ISO 14403-2:2013, NM | 08.11.22 10.11.22 |
| Total bound Nitrogen | 52 | # | mg/L | N | SIST EN 12260:2003, NM | 10.11.22 10.11.22 |
| Ammonium | 10 | # | mg/L | N | ISO 11732:2005, chapter 4, NM | 10.11.22 08.12.22 |
| Chloride | 116 | | mg/L | Cl | SIST EN ISO 10304-1: 2009, NM | 14.11.22 14.11.22 |
| Leaching with water | | | | | SIST EN 12457-4:2004, NM | 07.11.22 10.11.22 |
| pH | 6.6 | | | | SIST ISO 10523: 2012, NM | 09.11.22 09.11.22 |
| Temperature | 23.6 | # | °C | | SIST EN 12457-4:2004, NM | 07.11.22 08.11.22 |
| Waste analysis | | | | | | |
| Antimony | 15 | | mg/kg s.s. | Sb | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Arsenic | <1.0 | | mg/kg s.s. | As | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Copper | 47 | | mg/kg s.s. | Cu | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |



Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|----------------|-------------|------------------|--------------|-----------------|---|----------------------|
| Barium | 64 | | mg/kg s.s. | Ba | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Beryllium | <0.23 | <0.17 | # mg/kg s.s. | Be | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Boron | <67 | # | mg/kg s.s. | B | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Zinc | 410 | | mg/kg s.s. | Zn | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Cadmium | <0.3 | | mg/kg s.s. | Cd | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Cobalt | 3.2 | | mg/kg s.s. | Co | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Tin | 2.9 | | mg/kg s.s. | Sn | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Chromium | 22 | | mg/kg s.s. | Cr | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Manganese | 75 | | mg/kg s.s. | Mn | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Molybdenum | 2.4 | | mg/kg s.s. | Mo | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Nickel | 13 | | mg/kg s.s. | Ni | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Selenium | <0.20 | | mg/kg s.s. | Se | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Lead | 11 | | mg/kg s.s. | Pb | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Thallium | <0.16 | <0.12 | # mg/kg s.s. | Tl | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Tellurium | <0.16 | <0.11 | # mg/kg s.s. | Te | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Vanadium | <3.9 | | mg/kg s.s. | V | ISO 17294-2, modified, NM | 24.11.22 24.11.22 |
| Mercury | 0.17 | | mg/kg s.s. | Hg | SIST EN ISO 12846, modification in point 5, without chapter 7, NM | 17.11.22 17.11.22 |
| Naphthalene | 0.21 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Acenaphthylene | <0.02 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Acenaphthene | <0.1 | <0.05 | # mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Fluorene | <0.09 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Phenanthrene | 0.35 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Anthracene | <0.05 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Fluoranthene | 0.26 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Pyrene | 0.25 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |



Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|---|-------------|------------------|--------------|-----------------|--|----------------------|
| Benzo(b)fluoranthene | <0.15 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Benzo(a)anthracene | <0.09 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Benzo(k)fluoranthene | <0.15 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Chrysene | 0.10 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Benzo(a)pyrene | <0.09 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Benzo(ghi)perylene | <0.09 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Dibenzo(a,h)anthracene | <0.09 | <0.05 | # mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Indeno(1,2,3-cd)pyrene | <0.15 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| Polycyclic aromatic hydrocarbons (sum) | 1.2 | | mg/kg s.s. | | ISO 18287:2006, NM | 14.11.22 16.11.22 |
| PCB-28 (2,4,4'- trichlorobiphenyl) | <0.003 | | mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB-52 (2,2',5,5'-tetrachlorobiphenyl) | <0.003 | | mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB-101 (2,2',4,5,5'-pentachlorobiphenyl) | <0.003 | | mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB-138: (2,2',3,4,4',5'-hexachlorobiphenyl) | <0.001 | <0.0006 | # mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB-118 | <0.001 | | mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB-153 (2,2',4,4',5,5'-hexachlorobiphenyl) | <0.002 | <0.0004 | # mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB-180 (2,2',3,4,4',5,5'-heptachlorobiphenyl) | <0.001 | | mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| PCB - sum | <0.003 | | mg/kg s.s. | | SIST EN 17322:2020, NM | 25.11.22 30.11.22 |
| Hydrocarbon oil index | 980 | | mg/kg s.s. | | SIST EN 14039:2005, modified in points 8.3, 10.3, NM | 08.11.22 10.11.22 |
| Volatile aromatic hydrocarbons (BTX) | 0.93 | | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Benzene | <0.08 | <0.03 | # mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Toluene | 0.06 | | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Xylene (sum of o-, m-, p- isomers) | 0.74 | | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Ethylbenzene | 0.13 | | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Phenol index | <2.5 | # | mg/kg s.s. | | ND-CKA-146, version 2, NM | 08.11.22 08.11.22 |
| Total Cyanide | 1.9 | | mg/kg s.s. | CN | SIST EN ISO 17380:2013, NM | 07.11.22 08.11.22 |



Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|-----------------------|----------------|---------------------|--------------|--------------------|--------------------------------------|----------------------|
| Fluoride | 130 | # | mg/kg s.s. | F | ISO 10359-1:1992, NM | 28.11.22 28.11.22 |
| Ash | 8.4 | # | %DW | | SIST-TS CEN/TS 15403:2007, NM | 08.11.22 09.11.22 |
| Gross calorific value | 37388 | | kJ/kg s.s. | | SIST-TS CEN/TS 16023:2014, KR | 14.11.22 18.11.22 |
| Net calorific value | 35046 | | kJ/kg s.s. | | SIST-TS CEN/TS 16023:2014, KR | 14.11.22 18.11.22 |
| Nitrogen | 11992 | | mg/kg s.s. | | SIST EN 15408:2011, KR | 14.11.22 18.11.22 |
| Chlorine | 0.10 | | %DW | | SIST EN 15408:2011, KR | 14.11.22 18.11.22 |
| Sulfur | 0.017 | | %DW | | SIST EN 15408:2011, KR | 14.11.22 18.11.22 |
| Fluorine | 0.0062 | | %DW | | SIST EN 15408:2011, KR | 14.11.22 18.11.22 |
| Bromine | <0.01 | # | <0.001 # %DW | | SIST EN 15408:2011, KR | 14.11.22 18.11.22 |
| Hydrogen | 10.74 | | %DW | | SIST EN ISO 21663:2021, KR | 18.11.22 18.11.22 |
| Dry matter | 92.5 | | % | | SIST EN 15934:2012 - method A, NM | 07.11.22 07.11.22 |
| Moisture | 7.5 | | % | | SIST EN 15934:2012 - method A, NM | 07.11.22 07.11.22 |

Volatile halogenated hydrocarbons

| | | | | | | |
|--|-------|---|------------|--|-----------------------------------|----------------------|
| Highly volatile halogenated hydrocarbons | <0.86 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Trichloromethane (Chloroform) | <0.21 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Tribromomethane | <0.21 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| cis-1,2-Dichloroethene | <0.23 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Dichloromethane | <0.24 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| 1,2-Dichloroethane | <0.23 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Trichloroethene (Trichloroethylene) | <0.21 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| 1,1-Dichloroethane | <0.22 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| 1,1,1-Trichloroethane | <0.19 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| 1,1-Dichloroethene | <0.18 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Tetrachloroethene (tetrachloroethylene) | <0.59 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| 1,1,2-Trichloroethane | <0.26 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| trans-1,2-Dichloroethene | <0.23 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |



Analytic results

Results marked with # refer to not accredited activity

| Parameter | Result Note | Values below LOQ | Unit | Expressed as/on | Method Place of execution | Start/End |
|----------------------------------|----------------|---------------------|------------|--------------------|--------------------------------------|----------------------|
| 1,1,1,2-Tetrachloroethane | <0.22 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| 1,1,2,2-Tetrachloroethane | <0.23 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Bromodichloromethane | <0.22 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Dibromochloromethane | <0.18 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Tetrachloromethane | <0.17 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |
| Sample preparation | | | | | | |
| Dray matter from 40 °C to 105 °C | 98.5 | | % | | SIST EN 15934:2012 - method A, NM | 11.11.22 11.11.22 |
| 1,2-Dichloroethylene | <0.23 | # | mg/kg s.s. | | SIST EN ISO 15009:2016(E)), NM | 04.11.22 06.12.22 |

Locations of analyses:

NM - OKA Novo mesto, Dalmatinova ulica 3, Novo mesto
KR - OKA Kranj, Gosposvetska ulica 12, Kranj

Measurement uncertainty data are available on the request of the client.

*The result is outside the range of accredited method.

LOD-limit of detection, the lowest analyte concentration which can be detected but not necessarily quantified.

LOQ-limit of quantification, the lowest analyte concentration which can be quantified with acceptable accuracy under the specified conditions.

In the column "Values below LOQ" we show the measured values between LOD and LOQ. Prefix "<" in front of the value indicates that the value is below LOD. This results refer to not accredited activity (#) and are shown following the request of the customer or legislation.

Electronically confirmed by:
mag. Andreja Dremelj, univ.dipl.kem.
OKA Kranj

Head of branch:
Jernejka Franko, univ.dipl.inž.kem.inž.

Electronically signed by deputy Maja Križan, univ.dipl.kemik at 25.05.2023 08:46:58

Results refer only to the sampled sample. The test report shall not be reproduced except in full without written approval of the department. It should not be used for advertising purposes.
The sample was kept in accordance to the requirements until testing. All additional information on testing is available at the department.