

EKURHULENI METROPOLITAN MUNICIPALITY

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INTRODUCTION

1.1 OVERVIEW

The delisting of waste streams is a procedure allowed by the Department Environmental Affairs (DEA) and is described in the document “Minimum Requirements for the Handling, Classification and Disposal of Hazardous Waste”, 2nd edition, 1998. According to the precautionary principle, which is applied to waste disposal, industrial wastes are generally considered hazardous, unless proven otherwise. The Minimum Requirements stipulate that all wastes be classified in terms of a set procedure into one of 5 hazard groups (see below). In order to be accepted as non-hazardous, a waste must be classified and go through a Delisting Procedure. The Delisting Procedure is a method of proving a waste to be non-hazardous. For a liquid waste stream, this involves showing that it contains no components that would have an unacceptable impact on the environment. However solid waste streams could, on the other hand, be declared delisted, if no hazardous components leach at concentrations that would have an unacceptable impact on the environment. For example, if a waste is hazardous due to only one component, then treatment of that component and subsequent testing could show that its effective environmental concentration has been reduced to acceptable levels, i.e. the waste stream is delisted.

1.2 CLASSIFICATION OF HAZARDOUS WASTE

The Minimum Requirements classify waste streams in terms of their chronic toxicity (teratogenicity, mutagenicity, carcinogenicity), acute toxicity in terms of the mammalian toxicity, as measured by the LD₅₀ mg/kg (oral, rat) and ecotoxicity in terms of its LC₅₀ mg/l/96hr for fish, preferably trout. Also taken into account is the biodegradability of any specific component, its persistency, bioaccumulation and mobility in the environment. The waste or the species of concern in the waste, is assigned to a Hazard Group (HG) depending on its chronic toxicity, acute toxicity and its acceptable risk concentration or level (ARL). The ARL is equal to one tenth of the LC₅₀ in ppm. In simple terms, the ARL is that concentration, which when added to a body of water will provide no risk or at least an acceptable risk, if consumed by a population. The hazard groups are defined as:

Hazard Group 1, (HG1): Extreme Hazard

Hazard Group 2, (HG2): High Hazard

Hazard Group 3, (HG3): Moderate Hazard

Hazard Group 4, (HG4): Low Hazard

Non-hazardous

The current South African system allows for the calculation of the amount that can be disposed and a total load for a particular class of waste site. The load in grams per hectare, per month is defined in the Minimum Requirements document as the ARL (in ppb) divided by 0.66.

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The classification system is applied widely, e.g. to co-disposal landfill sites, to monodisposal sites such as slimes dams, ash dams, liquid waste effluents disposed to lagoons and also by definition to any site where waste materials are stored for periods of more than 3 months.

For a liquid waste or effluent, the concentrations of the dissolved species determine the potential classification of the waste stream, whereas for a solid waste, the leachable concentrations are used.

1.3 DELISTING

A low hazard waste can be delisted - that is, it can be downgraded in terms of its classification and threat to the environment - if the Estimated Environmental Concentration (EEC) as determined from the actual concentration or leachable concentration of the constituent of concern, is below the Acceptable Risk Level (ARL). The delisting concentrations for the hazardous components are defined as:

HG1 → HG3/4 when the EEC is < ARL.

HG1 → G when the EEC is < ARL/10

HG2/3/4 → G when the EEC is < ARL

Also total load in g/ha/m = ARL in ppb/0.66

Note that a waste, even one containing an extreme hazard waste, can delist such that it can be disposed to a permitted general waste site (G site). This could be a site taking domestic waste or one that is constructed as a G site, as outlined in the Minimum Requirements for the Disposal of Waste to Landfill [3]. If a delisted hazardous waste is to be disposed in a general site then a leachate management system is normally required; i.e. the site must be constructed as a GB⁺ site. The permit of the site must also be amended to specifically accept Delisted Waste.

The delisting procedure involves a detailed analysis of the waste stream, to determine whether any of its constituents render it hazardous. A solid waste that needs co-disposal with domestic waste, must undergo the US EPA (United States Environmental Protection Agency) Toxicity Characteristic Leaching Procedure (TCLP), followed by analysis of the leach solution for a range of toxic components, e.g. heavy metals, phenols, hydrocarbons, etc. The concentrations are compared with the acceptable risk levels for each component and a hazard rating is determined.

If the waste or the leach solution contains no hazardous components or, at least, acceptable amounts, then it can be delisted and disposed of at certain permitted general waste landfill sites. These sites are normally classified as GLB⁺, i.e. it must have an adequate leachate management system.

Should a component of the waste stream be leachable, then various treatment methods can be applied to render that component nonleachable. Once the waste has been treated, it has to undergo a TCLP test to confirm the effectiveness of the treatment.

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Recommended laboratories for TCLP analysis:

M&L Laboratory Services, Ormonde, Johannesburg, (011) 496 2228

Setpoint Laboratories, Isando, (011) 923 7100

the laboratories should be requested to carry out a full organic and inorganic analysis as per the attachment to this document..

Please Note: Please refer to Appendix 2 of this document for the analytical requirements for samples submitted for analysis with the objective of being delisted. It is vital that this sheet be handed to the laboratory together with the sample when it is submitted for analysis.

The Ekurhuleni Metropolitan Municipality is able to accept selected, delisted waste streams in the form of solid, liquid or sludge for disposal at its Rietfontein landfill site in Springs. In order for a waste stream to be accepted for disposal at this site, the Generator has to follow the procedure outlined in Section 2.

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2. DELISTING PROCEDURE

In order for a waste stream to be disposed at the Rietfontein landfill site, the generator must supply the Ekurhuleni Metropolitan Municipality (EMM) with conclusive proof that the waste stream has been delisted. This should include a letter of authorisation from the Department of Environmental Affairs (DEA) giving permission for disposal to a site classified as GLB⁺. In most cases permission is also required from the Gauteng Department of Agriculture and Rural Development (GDARD)

(The EMM however reserves the right to refuse to accept a waste even though it has been delisted, since the amount of wastes that can be accepted depends on operational conditions, the co-disposal ratio, the amount of rainfall at the site, the monthly and total load for the species of concern in the waste stream and other wastes already accepted at the site.)

If a letter of authorisation from the DEA is not available, proceed with the steps below.

Contact Dr David Baldwin of Environmental and Chemical Consultants cc, who has been appointed as an official EMM consultant for the control of Delisted waste streams at the Rietfontein Site.:

Tel: (044) 874 3638

Cell: 082 820 1691

Supply Environmental and Chemical Consultants with as much information as possible on the composition of the waste stream (see attached questionnaire), including details of the process generating the waste and the expected constituents. Note that client confidentiality will be respected and Environmental and Chemical Consultants will sign a confidentiality agreement if so desired.

Based on the information supplied above, Environmental and Chemical Consultants will be able to advise the Generator if the waste appears to be a likely candidate for Delisting.

Environmental and Chemical Consultants will supply the Generator with a quote to take the waste through the Delisting Procedure. Should the quote be accepted, this amount must be paid COD at the time of taking the sample.

A sample or samples of the waste must be collected by the generator or waste management company/transporter. The sample/s must be taken according to the sampling methodology as prescribed by Dr. Baldwin, as this will be specific according to the type of waste.

The sample/s will be taken to an approved and accredited independent laboratory.

Here they will then undergo a TCLP extraction and associated analysis.

The results will be evaluated by Environmental and Chemical Consultants and a report supplied to the generator.

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Should the results of the TCLP indicate that the waste is non-hazardous or that it can be delisted, confirmation will be supplied to the Generator by Environmental and Chemical Consultants in the form of a report and covering letter. The report will outline the details of the analytical procedures required when the waste comes to site, to be conducted by the site laboratory, for acceptance on site. The report is also submitted to the DEA to obtain official approval that the waste delists. The Gauteng Department of Agriculture, and Rural Development (GDARD), also needs to approve the disposal of waste at Rietfontein. Once permission has been granted, then arrangements must then be made by the Generator with the EMM for its disposal at the Rietfontein site (see Disposal Arrangements).

Should the results indicate that the waste is hazardous, it will not be accepted for disposal at the Rietfontein site and will have to be disposed of at a hazardous waste landfill site.

Should the results of the TCLP indicate that only certain components of the waste are rendering it hazardous, and then the Generator may attempt to treat the waste or alter the waste producing process in such a way that these components are removed from the waste stream or rendered nonleachable. Environmental and Chemical Consultants have vast experience in this arena and can be called upon for advice. Once the waste has been treated or the process altered, a sample must be resubmitted for the above analysis.

2.1 BLANKET DELISTING FOR LOW HAZARD HYDROCARBONS

EMM has obtained a blanket delisting for certain very low hazard hydrocarbons. These waste streams are assessed on an individual basis to determine whether or not they fall under the blanket delisting. In order to assess these waste streams it is necessary to fill in the questionnaire which is part of this procedure, with as much information as possible. The analytical procedure involving the TCLP extraction is not necessary. In some cases a sample may be requested for analysis at the Rietfontein laboratory.

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3. DISPOSAL ARRANGEMENTS.

The Generator must inform and supply the EMM, with adequate proof that the waste stream has been delisted (See Section 2).

Notification and arrangements must be made with the site operator, before the Generator/transporter intends to transport the waste to the Rietfontein landfill site for disposal. This must be done by means of a Control Authorisation Sheet (CAS) which is obtainable from the site and attached to this document. The CAS must be sent through to the site at least 24hr before the date when the waste is to be disposed. It can be sent to:

Fax: 086 532 7702

e-mail: rietfontein1@gmail.com

The CAS must specify the generator of the waste and the waste type. The volume must also be indicated, including the size of the container e.g. 3 x 210l drums or 5 x 6m³ bins. The name of the generator and description of the waste must be identical to that given when application was made and the questionnaire was filled in, as well as identical to the names/titles indicated on the letter of authorisation from the DEA. If a CAS has not been received to book the waste at least 24 hours prior to arrival, the waste will not be accepted for disposal at the site. A CAS is only valid for two days i.e. if the waste has been booked for a certain day, if it does not arrive that day or the next, the CAS will no longer be valid and the load will have to be rebooked. The CAS must be sent through to the site before 15H30 Monday to Friday, to give site staff ample time to verify loads, contact the transporter should there be any queries or discrepancies or to make the necessary arrangements on the landfill site in terms of operations. If the CAS is sent later than 15H30 on a specific day, then delays of vehicles can be expected if there are any queries, discrepancies or preparations required. The CAS should only list loads to be delivered to the site on a particular day.

In order to dispose of waste on a regular basis at the landfill site, a transponder needs to be purchased for vehicles, to comply with the sites transponder system.

Under no circumstances can delisted wastes be disposed of on weekends or public holidays. On weekdays loads will not be accepted later than 15H30, as samples must still be analysed and the waste disposed and covered before the site closes.

Please note that only one waste stream per container/load may be disposed of. Under no circumstances may more than one type of waste be mixed in a container for disposal.

Upon arriving at the site, a sample of the waste stream will be taken. The sample will be divided into two portions and one portion will be analysed for certain key elements by the on-site laboratory.

Should the laboratory tests confirm that the waste type is identical to the original waste stream, which underwent the Delisting Procedure, that it has effectively undergone treatment, where

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applicable and that it is indeed non hazardous, then the vehicle in which it is being transported will be given permission to enter the site and dispose of the waste at a specified point and manner.

The Generator will be supplied with a Safe Disposal Certificate issued by the EMM, at the end of the month in which the waste was disposed. Please note that there are very specific procedures for the obtaining of the Safe Disposal Certificates from the site operator (section 3.2.1).

Should the waste analysis or the accompanying paperwork, not conform to that of the original sample that was delisted, disposal of the waste will be refused at the Rietfontein landfill site. The generator of the waste will be responsible for disposing of the waste at a hazardous waste landfill site. The non conformance will be reported immediately in writing to the generator, transporter and the DEA.

The volumes/mass of weight brought to the site is critical. The DEA will delist the waste stream for a specific amount and this must be strictly adhered to. The site will keep track of these volumes/tonnages. When the permissible amount is exceeded, the waste will not be accepted for disposal. In terms of the Blanket delisting, the volumes/tonnages of these waste streams are also closely monitored and can also not be exceeded.

3.1 CHANGE IN CONTACT DETAILS AND RECORDS

Please note that from time to time Ekurhuleni sends out notices with regards to circumstances on the site or changes in procedure. It is the applicant's responsibility to ensure that Ekurhuleni is informed of any changes in contact details for both the generator and the transporter. Ekurhuleni will not be responsible for such notices not reaching the relevant person/s, if they have not been made aware of the change in details.

Should the waste transporter of a specific waste stream be changed, it is also essential to notify the site so that the site Database can be updated.

3.2 IMPORTANT NOTICE REGARDING SAFE DISPOSAL CERTIFICATES (SDC)

EMM would like to draw to the attention of all waste generators and transporters that only official Safe Disposal Certificates issued by the site operator on behalf of Ekurhuleni Metropolitan Municipality, will be recognised as proof that a particular waste stream has been disposed of at the Rietfontein Landfill Site. The onus is on the generator to obtain an official Safe Disposal Certificate, as issued by the Ekurhuleni Metropolitan Municipality. An example of such a certificate is attached to this document.

Please note that the details reflected on the Waste Manifest Document (WMD), will be the details copied to the Safe Disposal Certificate. It is therefore critical that the WMD reflects the full name and address of the Generator, as well as the generator contact persons' details

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3.2.1 Procedure for Obtaining SDC

The SDC must be collected from the Rietfontein landfill site. The transporter or generator wishing to collect SDC must send a letter to the site authorising a company representative to collect such certificates.

This designated person should collect the SDC on the 4th day of each month during normal working hours. If this day falls on a weekend, then they should be collected on the first Monday after the weekend or in the case of it falling on a public holiday, the first week day after the public holiday.

Each SDC has a unique number. The person collecting the SDC will be expected to sign receipt of the SDC with these specific numbers, listed in a log book.

Each SDC will be stamped “COPY” and the stamp will be signed by the site operator.

Additional copies will not be issued.

4. ARRANGEMENTS WITH REGARDS TO THE DISPOSAL OF WASTE IN DRUMS OR EMPTY DRUMS

24 Hours’ notice must be given via the CAS system for the disposal of drums. The CAS must clearly state how many drums and their size.

All drums must be disposed of before 12H00 on the day that they arrive at the site.

All drums must be open head drums, which can easily be opened by lab personnel to take samples. Drivers and their assistants will be expected to assist the lab personnel with the sample taking, if necessary.

5. GENERATORS

Ekurhuleni Metropolitan Municipality wishes to draw your attention to the fact that as the Permit Holder for the Rietfontein Landfill site, they reserve the right to contact the generator of any waste stream for the exchange of information, as deemed necessary.

6. REGISTRATION WITH GDARD WIS

It is very important to note that all generators and transporters of waste in the Gauteng Province should be registered on the Gauteng Waste Information System. The Gauteng Department of Agriculture and Rural Development (GDARD) has requested that the Ekurhuleni Metropolitan Municipality encourage all generators and transporters of waste to its sites for disposal, to register at www.gdard.pgp.co.za/wis

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7. QUESTIONNAIRE

This questionnaire should be completed and faxed through to:

Mrs. Janine Nicholson

Fax Number: 0866724210

PLEASE NOTE THAT THIS DOCUMENT AND FORMS ARE UPDATED FROM TIME TO TIME AND IT IS THE RESPONSIBILITY OF THE APPLICANT TO ENSURE THAT THEY ARE USING THE LATEST VERSION

7.1 DETAILS OF THE WASTE GENERATOR

Name:

Postal Address:

Fax Number or e-mail address:

7.2 CONTACT PERSON

Full Name:

Telephone Number:

Cell Number:

7.3 DETAILS OF THE COMPANY TRANSPORTING THE WASTE TO THE LANDFILL SITE

Name:

Address:

Telephone number:

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7.4 CONTACT PERSON AT TRANSPORT COMPANY

Name:

Telephone number and cell number:

e-mail Address:

7.5 TYPE OF WASTE

Name:

7.6 PROCESS GENERATING THE WASTE

A brief description:

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7.7 EXPECTED CONSTITUENTS OF THE WASTE

Please list the constituents of the waste stream and their concentrations (if available):

Please supply any analysis certificates from reputable laboratories, which may be available. Material Safety Data Sheets should also be supplied where possible.

| Constituent | Concentration | Constituent | Concentration |
|-------------|---------------|-------------|---------------|
| 1 | | 4 | |
| 2 | | 5 | |
| 3 | | 6 | |

7.8 VOLUME AND/OR MASS OF THE WASTE TO BE DISPOSED:

Volume:

Mass:

| | | | | | |
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7.9 FREQUENCY

Please state the frequency with which the above volume of waste will be disposed of:

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7.10 FORM OF WASTE

Please state whether the waste is in the form of a solid, liquid or sludge:

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| |
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7.11 TREATMENT

Please indicate whether the waste is currently being treated in any way and if so please supply a brief description of the treatment, which it undergoes:

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| |
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7.12 DISPOSAL

Please indicate how the waste is currently disposed:

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| |

AGREEMENT

I hereby agree that I have read and clearly understood the above document on the Waste Delisting procedures. I agree to comply with all the conditions stipulated. The questionnaire has been filled in truthfully and all information supplied with regard to the waste is accurate.

SIGNED:

PRINT NAME:

DATE:

| | | | | | |
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8. APPENDIX 3 – SAFE DISPOSAL CERTIFICATE

Please see attached Safe Disposal Certificate. This is an example of the official Safe Disposal Certificate, as issued by Ekurhuleni Metropolitan Municipality. This is the only valid Safe Disposal Certificate, which verifies that a specific load has been disposed at the site

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