

And KAM-rule 35

Requirements for discharge of hazardous substances and mixtures to sewers

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5	February 21, 2024	Due to the introduction of the Environmental Act, references to websites have been adjusted if necessary and general discharge requirements have been added in connection with change to the USPB environmental permit. Appendix 3 has been updated	Stichting-ALT	Management
4	November 7, 2022	Regular update and actualization appendix 3.	Stichting-ALT	Management
3.3	July 8, 2021	Appendix 35.3 has been updated	Stichting-ALT	Management
3.2	February 10, 2021	In version 3 of Aug 13 2020, referring to KAM19 is removed, KAM19 is from Dec 20 2018 included in KAM07. Appendix 35.3 has been updated	Stichting-ALT	Management
3.1	January 4, 2021	Appendix 35.3 has been updated	Stichting-ALT	Management
3	August 13, 2020	Adjustment cleaning products used by cleaning companys and company canteen appendix 35.3	Stichting-ALT	Management
2	May 29, 2017	Adjustments and renewal of substances and preparations based on new 'general assessment methodology 2016' (NL: Algemene BeoordelingsMethodiek 2016 [ABM])	Stichting-ALT	Management
1.1	October 11, 2016	Appendix 35.3: Cosa CIP 92 added	Stichting-ALT	Management
1	October 13, 2015	Adapting adjustments including introduction concept 'line manager'	Stichting-ALT	Management
0	June 23,	New format	St. AL-terrein	Management
Rev.	Datum	Omschrijving	Auteur	Goedgekeurd door

Changes compared to the previous version

References to websites and new legislation and regulations have been checked and, if necessary, adjusted following the release of the Environmental Act on January 1, 2024.

Page 3: In the 2nd bullet under Introduction, 'provided the quantity to be discharged does not influence the general requirement for the pH value of wastewater' has been added.

Appendix 1: [The general requirements for discharging wastewater into the sewer](#) have been added, because these requirements were added to the USPB environmental permit in November 2023.

Appendix 3 "Assessed cleaning agents, disinfection agents and boiler water treatment agents, buffer fluids and other substances" has been updated.

Introduction

According to the Environmental permit, waste from laboratories and production sites is considered hazardous waste. This hazardous waste has to be collected and is not be discharged to sewers. Other KAM-rules that are relevant to this KAM-rule (35) are displayed in Table 1:

Table 1: Other KAM-rules relevant to KAM-rule 35

No. KAM-regulation and title	Relevance
03 Hazardous substances	Working with hazardous substances, only if prescribed measures are followed
07 Disposal of (hazardous) waste	Dispose of hazardous substance as hazardous waste

The following waste water streams are generated at the USPB:

- Laboratory waste water and waste water from vaccine production;
- Domestic waste water and waste water from cleaning activities;
- Boiler flush water and waste water from the flush of cooling towers;
- Unpolluted and (possibly) polluted rainwater.

All waste water streams are discharged together into one waste water sewer, which means the entire discharge is subject to permit requirements and the waste water may only be discharged under certain conditions. This concerns waste water from biological production and waste water from a flow cytometer, when inactivated (e.g. in a autoclave or kill tank), as well as cleaning agents, disinfection agents and boiler water treatment agents as mentioned in appendix 3 (after positively evaluated according to the diagram in appendix 2).

For the waste water that only may be discharged under certain conditions, this KAM-rule offers the application framework. Insight into the aquatic hazard of the substance or mixture is necessary before discharge of the substance or mixture can take place. Based on these insights a so-called decontamination effort can be determined for these substances or mixtures. This is done by using the 'general assessment methodology' (NL: [Algemene BeoordelingsMethodiek \[ABM\]](#))¹. To determine the aquatic hazard of substances or mixtures, information is required on the properties of the substances and the composition of the mixtures.

The following requirements in the environmental permit (VOH) of the site determine the admissibility of substances and mixtures for discharge:

- Requirements for discharge regarding various substances (see also appendix 1). This concerns aqueous waste streams from samples of e.g. ground and/or drinking water that have been

¹ 'Algemene Beoordelingsmethodiek (ABM), Methode ter bepaling van de saneringsinspanning bij lozingen op basis van stoffeigenschaften'.

acidified. It is allowed to discharge these acidified samples to sewers, provided that, they do not contain SVHCs or other aquatic hazardous substances and provided that, apart from the acid, no other hazardous substances are contained by / added to the samples, provided the quantity to be discharged does not influence the general requirement for the pH value of wastewater;

- Substances that are being discharged in significant quantities (e.g. cleaning agents, disinfection agents and boiler water treatment agents) have to be subjected to an ABM-assessment. Cleaning and disinfection agents for example, are being used in washing machines in the laboratory (for the cleaning of glassware) as well as being used for cleaning laboratories, production rooms and other types of rooms.

No hazardous substances may be discharged, except for cleaning agents, disinfection agents and boiler water treatment agents that sufficiently degrade in or are removed by the municipal waste water treatment plant and therefore are listed in Appendix 3 of this KAM rule.

The criteria for classification and the appropriate decontamination efforts are given in the ABM. The decontamination effort (measures at the source by substitution, reuse and process modification, followed by further minimisation by purification of the waste water stream) has to be executed before a discharge of cleaning agent, disinfection agent or boiler water treatment agent takes place. The application of the criteria is explained in the chapter 'Method'.

In the environmental permit and in the '[Besluit activiteiten Leefomgeving](#)' (Bal) the criteria for the site regarding laboratories, production locations and several hazardous substances are laid down. This KAM-rule explains the given restrictions (see appendix 1) and the measures to comply with the requirements for discharge.

Objective

The objective of this KAM-rule is, that the method for the assessment of environmentally hazardous substances regarding the collection of waste and potential discharge hereof to sewers is known and followed.

Responsibilities

The following applies to this KAM-rule:

- The line manager is responsible for the implementation of and compliance with this KAM-rule within his own organisational unit.
- The employee is demonstrably familiar with this KAM-rule and follows the method as described.

Method

The ABM-assessment discriminates in the categories Z, A, B or C, which results in the decontamination effort for the substance to be discharged.

Z	Substances of Very High Concern (SVHC): set of substances that are most hazardous to humans and the environment;
A	Not readily biodegradable aquatic harmful substances;
B	Readily biodegradable aquatic harmful substances;
C	Substances that occur naturally in local surface water.

This classification is based on the physical, chemical and toxicological properties (in the ABM, the biodegradability is the starting point of the assessment). The requirements for determining the category of a substance are given in appendix 2, as well as the required information and the flowchart for classification.

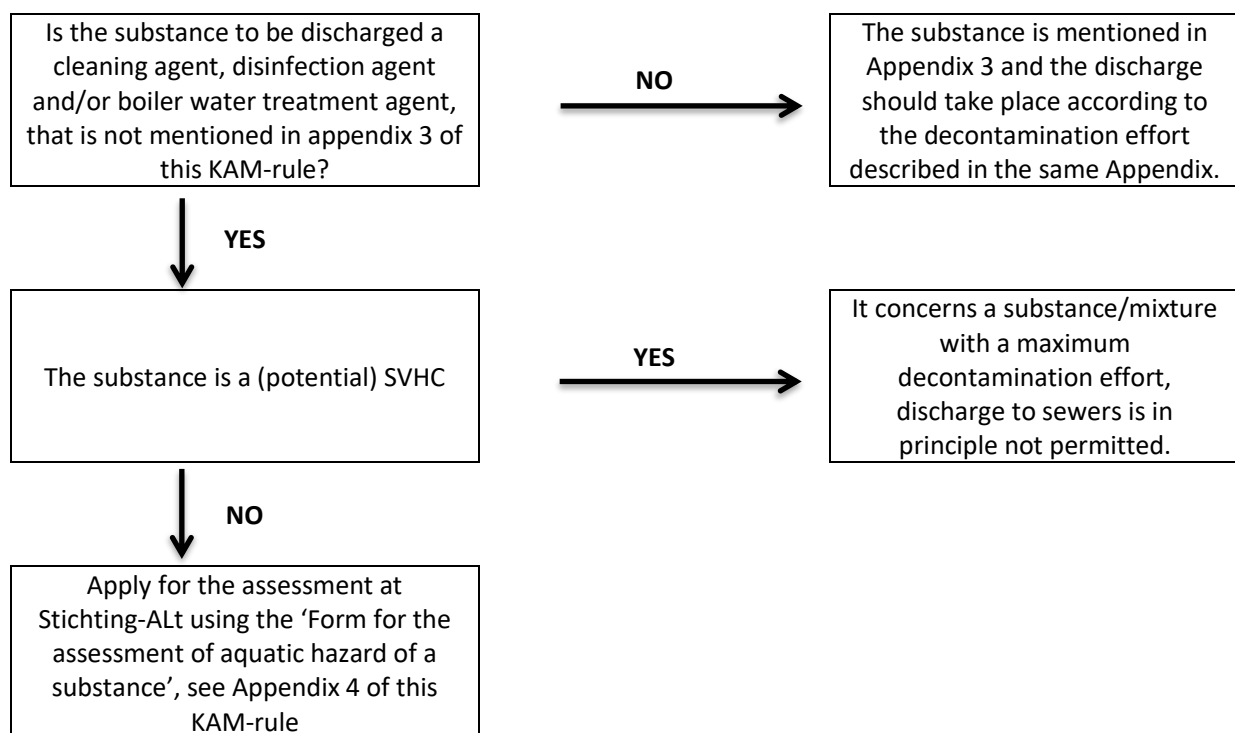
Before cleaning agents, disinfection agents and boiler water treatment agents are allowed to be discharged to the sewer, an ABM-assessment has to be carried out by a waste water expert.

Before discharge can take place the following steps have to be taken, in case the substance involved is not classified according to appendix 3:

- 1) The user fills out the complete form (appendix 4 'Form for the assessment of the aquatic hazard of the substance'). The form has to be sent to Stichting-ALt (secretaris@stichting-alt.nl) including the Safety Data Sheet (SDS);
- 2) Stichting-ALt evaluates if the form contains sufficient information. The user is informed if an ABM-assessment can be executed with the information provided for or if further information is needed.
- 3) If sufficient information has been received, the Stichting will send the information to a waste water expert who will evaluate the aquatic hazard of the substance using an ABM assessment;
- 4) The assessment and results of the ABM-assessment are communicated to the user. The substance is classified into one of the categories Z, A, B or C.

Depending on the result of the ABM-assessment the user takes measures and/or provisions corresponding with the category, as determined in appendix 2

Flow chart assessment aquatic hazard



Terms and abbreviations

Subject	Elaboration	Explanation
ABM	General assessment methodology i.e. an assessment for determining in which category (Z, A, B or C) a certain hazardous substance falls and which decontamination effort is required.	Method to evaluate substances and mixtures based on the aquatic hazard of the (mixtures of) substances.
Z-category	Substances of Very High Concern (SVHC): A set of substances that are most hazardous to humans and the environment (e.g. polycyclic aromatic hydrocarbons, dioxins, mercury and its compounds).	Use of these substances has to be terminated. https://rvs.rivm.nl/stoffenlijsten/Zeer-Zorgwekkende-Stoffen (Click on the diverse documents and links on this website for additional information. In Dutch)
A-category	Not readily biodegradable aquatic harmful substances.	Use of these substances has to be terminated.
B-category	Readily biodegradable aquatic harmful substances.	Discharge of these substances has to be prevented as much as possible.
C-category	Substances that occur naturally in local surface water.	For these substances the need for taking emission reducing measures has yet to be determined.
KAM-rules	Kwaliteit, Arbo- & Milieuregels (rule for Quality, Occupational Health and Safety and Environmental protection.).	
Line manager	The responsible supervisor.	
Site	USPB site at the Antonie van Leeuwenhoeklaan.	USPB: Utrecht Science Park Bilthoven.
VOH	Vergunning op Hoofdzaken (Permit on essentials), that is the environmental permit with conditions the entire USPB must meet.	Environmental Permit that includes the discharge rules and the ABM-test.
Omgevinswet	Wet voor het benutten en beschermen van de fysieke leefomgeving (Act for the use and protection of the physical environment).	Legislation concerning the environmental permit. This permit is a single integrated permit for nature and environment, building, discharge to sewers, etc.

Appendices

Appendix 1:	Requirements for discharge
Appendix 2:	ABM-assessment: evaluation of substances (Z, A, B or C)
Appendix 3:	Assessed cleaning agents, disinfection agents and boiler water treatment agents, buffer fluids and other substances
Appendix 4:	Form for the assessment of the aquatic hazard of the substance or mixture