

GOOD PRACTICES FOR USING WATER/ ADDITIVES ON THE ROADS OR OPEN SURFACES TO REDUCE DUST LEVELS

This sheet provides advice on the use of water, additives or a combination of both to reduce dust levels on the roads or in open surfaces in a quarry. This activity relates to the use of water sprays, atomized water mists or additives (e.g. calcium chloride, etc.) to suppress the generation and lower the concentration of airborne crystalline silica dusts on the roads or in open surfaces. Another option is to use lime or cement to stabilise the roads when needed.

ACCESS

Restrict access to the work area to authorised personnel only.

DESIGN AND EQUIPMENT

- For paved roads, consider using a road sweeper.
- If possible, use water fed systems (static or mobile), or trucks sprinkling water for both paved and unpaved roads or working surfaces in the quarry.
- In circumstances where there will be no adverse effects on the environment, process conditions, product quality or health and safety, apply water mists in work areas where airborne crystalline silica may be generated by material and product handling.
- When using additives, a previous evaluation of their effects should be carried out.
- Ensure electrical systems have adequate protection when used with water suppression, spraying or misting.
- Take precautions to ensure the control of legionella and other biological agents in water storage and delivery systems.
- Take precautions to ensure that wastewater and sludges are disposed according to local legislation.
- When possible, it is recommended to use recycled water.
- Consider the use of automatic regulation based on weather conditions (e.g. wind speed, rainfall, etc.). Alternatively, establish a procedure to manage the use of the water system.
- Ensure that the system is designed with an appropriate relationship between the size of the dust and the size of the water drop particles.



MAINTENANCE

- Ensure water dust suppression equipment used in the task is maintained as advised by the supplier/installer in efficient working order and good repair.
- Replace consumables in accordance with the manufacturer's recommendations.

EXAMINATION AND TESTING

- Visually check all equipment for signs of damage at least once per week or, if it is in constant use, check it more frequently. If used infrequently, then check it before each use.
- Obtain information on the design performance of dust suppression equipment and of the additives from the supplier (if possible). Keep this information to compare with future test results.
- Keep records of inspections for a suitable period of time which complies with national laws (minimum five years).
- Put in place measures to control the risk of bacterial growth within water sources used across site, focusing most on systems where water droplets will be generated.

CLEANING AND HOUSEKEEPING

- Clean water dust suppression equipment as instructed by the manufacturer/supplier.
- **Avoid accumulation of slurries/sludges.**
- Ensure spills are cleaned up immediately, and provide adequate spill control equipment.
- **Avoid the dispersion of the collected dust of slurries/sludges.**

TRAINING

- Give your employees information on the health effects associated with respirable crystalline silica dust.
- Provide employees with training on: dust exposure prevention; checking controls are working and using them; when and how to use any respiratory protective equipment provided and what to do if something goes wrong. Refer to task guidance sheet **2.3.4** (Training) and part 1 of the Good Practice Guide.

SUPERVISION

- Have a system to check that control measures are in place and that they are being followed. Refer to task guidance sheet **2.3.3** (Supervision).
- Employers should make sure that employees have all the means to perform the checklist given below.

PERSONAL PROTECTIVE EQUIPMENT

- Refer to task guidance sheet **2.1.15** dedicated to Personal Protective Equipment.
- Risk assessment must be carried out to determine whether existing controls are adequate. If necessary, respiratory protective equipment (with the appropriate protection factor) should be provided and worn.
- Provide storage facilities to keep personal protective equipment clean when not in use.
- Replace respiratory protective equipment at intervals recommended by its suppliers.

EMPLOYEE CHECKLIST

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| <input type="checkbox"/> Make sure that water dust suppression equipment is working properly. | <input type="checkbox"/> Protect water supplies against freezing. | <input type="checkbox"/> Clean dust suppression equipment regularly and after use. | <input type="checkbox"/> Check and implement the measures of controlling the risk of bacterial growth within water sources used across site, focusing most on systems where water droplets will be generated. |
| <input type="checkbox"/> Ensure water supplies are adequate with an uninterrupted supply during use for dust suppression. | <input type="checkbox"/> Look for signs of damage or malfunction, and if you find any tell your supervisor immediately. | <input type="checkbox"/> Keep personal protective equipment clean and properly stored. | |
| | <input type="checkbox"/> Clean up spills immediately. | | |

This guidance sheet is aimed at employers to help them comply with the requirements of workplace health and safety legislation, by controlling exposure to respirable crystalline silica.

Following the key points of this task guidance sheet will help reduce exposure.

Depending on the specific circumstances of each case, it may not be necessary to apply all of the control measures identified in this sheet in order to minimise exposure

to respirable crystalline silica. i.e. to apply appropriate protection and prevention measures. This document should also be made available to persons who may be exposed to respirable crystalline silica in the workplace, in order that they may make the best use of the control measures which are implemented.

This sheet forms part of the Good Practices Guide on silica dust prevention, which is aimed specifically at the control of personal exposure to respirable crystalline silica in the workplace.