

December 2017

## SO<sub>2</sub> Alert System for Kitimat

### What is SO<sub>2</sub>?

Sulphur dioxide (SO<sub>2</sub>) is a colourless gas with a strong odour at higher concentrations. It is produced during the combustion of sulphur-containing fuels and industrial operations involving sulphur-containing materials. The largest sources of SO<sub>2</sub> in B.C. include the upstream oil and gas sector, metal smelting facilities, the pulp and paper sector and marine vessels.

### How does it affect my health?

Short-term exposures to elevated SO<sub>2</sub> levels can cause the air passages in the lungs to constrict or tighten, leading to breathing difficulties and tightening in the chest. Those most sensitive to the effects of SO<sub>2</sub> include persons with asthma, children and the elderly. Symptoms may worsen during vigorous exercise or hard physical labour. See [HealthLinkBC](http://HealthLinkBC) for summary health recommendations and Health Canada's [Human Health Risk Assessment for Sulphur Dioxide](#) for more detailed information.

### What is the SO<sub>2</sub> alert system and how can I sign up to receive alerts?

The Ministry has started a pilot project in Kitimat, in response to local concerns about increasing SO<sub>2</sub> emissions and recommendations from the Environmental Appeal Board regarding the Rio Tinto Alcan permit amendment. Alerts will be posted to the Ministry's website at:

[www.gov.bc.ca/sulphur-dioxide-alerts](http://www.gov.bc.ca/sulphur-dioxide-alerts) when SO<sub>2</sub> concentrations become elevated at any of three community monitoring sites (see Figure 1 for locations). Alternatively, members of the public can receive these alerts directly by e-mail or text message through services provided by the Bulkley Valley Lakes District Airshed Management Society at [www.AQadvisories.ca](http://www.AQadvisories.ca). Each alert message includes information on 1-hour SO<sub>2</sub> concentrations over the past hour and associated health guidance, focussing on advice for those most sensitive to SO<sub>2</sub> exposure. An example of alert messages is provided in Figure 2.

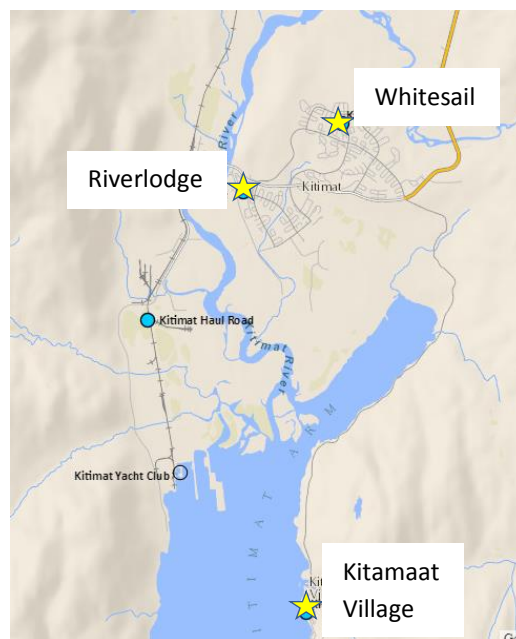


Figure 1. Map of Kitimat and air quality monitoring sites (highlighted by stars) that are part of SO<sub>2</sub> alert system pilot.

#### How was the alert system developed?

The health guidance was developed in consultation with the BC Centre for Disease Control, the Ministry of Health and Northern Health Authority. Different sets of health advice were established for moderate (36-70 ppb), high (71-185 ppb) and very high (>185 ppb) levels of SO<sub>2</sub>. The health advice was based on guidance established by Health Canada for the [Air Quality Health Index](#) and by the Island Health Authority in its [Health Risk Guide](#) developed for the James Bay Sulphur Dioxide Monitoring Program.

#### Will it be expanded across the province?

The usefulness of this alert system will be reviewed mid-2018, with the potential to retain, revise and/or expand elsewhere in the province following this review.

#### Where can I find SO<sub>2</sub> measurements for communities outside of Kitimat?

Recent SO<sub>2</sub> data from all B.C. monitoring sites can be accessed through a [map-based interface](#) or [quick links](#) to specific areas of the province.

#### Ministry Contact

For more information, consult our website at: [www.gov.bc.ca/sulphur-dioxide-alerts](http://www.gov.bc.ca/sulphur-dioxide-alerts) or e-mail the Ministry at: [BCAirQuality@gov.bc](mailto:BCAirQuality@gov.bc).

Subject: SO<sub>2</sub> Air Quality Alert - Kitimat

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This is an automated message from the Ministry of Environment & Climate Change Strategy.

At HH:MM on DD-MMM-YYYY, 1-hour SO<sub>2</sub> levels for [STATION] reached ZZZ ppb.

Persons with asthma should consider reducing or rescheduling strenuous activities outdoors if experiencing symptoms.

This alert will be reissued at HH:MM on DD-MMM-YYYY if SO<sub>2</sub> levels remain elevated. For more information visit: <http://www.gov.bc.ca/sulphur-dioxide-alerts>.

Figure 2. Example of SO<sub>2</sub> alert.