

This is Provisional English translation of an excerpt from the original full report.

## **Risk Assessment Report Chlorous Acid Aqueous Solution (Food additive)**

Food Safety Commission of Japan (FSCJ)  
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### **Executive summary**

The Food Safety Commission of Japan (FSCJ) conducted a risk assessment of chlorous acid aqueous solution (CAS No. 13898-47-0), a food additive used as a bactericide, using various test results.

The study results used in the assessment are related to the repetitive dose toxicity, carcinogenicity, reproductive developmental toxicity, and genotoxicity of only sodium chlorate and other substances which are analogous to chlorous acid aqueous solution, since no such data was available for the object material.

Although no study report was available for the toxicity of chlorous acid aqueous solution, we determined that general assessment would be possible by using the study results of sodium chlorite ( $\text{NaClO}_2$ ), which has already been approved in Japan, while taking into account the test results regarding chlorine dioxide ( $\text{ClO}_2$ ) and hypochlorous acid aqueous solution, or sodium hypochlorite ( $\text{NaClO}$ ).

Evaluating the results of safety studies for sodium chlorite, etc. indicated the primary risk factor of chlorite ion intake was to cause damage to red blood cells. No carcinogenicity was observed. As regards its genotoxicity, weak positive results were obtained from reverse mutation test using bacteria, whereas chromosomal abnormality tests using mammalian cell cultures were positive; however, micronucleus tests even at high-dose level were negative. Taking all these facts into account, these substances are not considered to pose specific risk to living organism.

Based on these findings, we consider that there is no particular safety concern raised, provided that chlorous acid, the primary active ingredient of chlorous acid aqueous solution, is used appropriately as food additive and that the criteria for use are observed by eliminating the substance before the completion of food processing.

The lowest no observed adverse effect level (NOAEL) in the toxicity tests of chlorous acid aqueous solution was 2.9 mg/kg body weight/day in the form of chlorite ions, obtained from decreased auditory startle reaction in a rat reproductive toxicity study.

In conclusion, by applying the safety factor of 100, FSCJ determined the amount of daily intake (ADI) to be 0.029 mg/kg body weight/day for chlorous acid aqueous solutions.