




TM SMART ADD 12

LIQUID INDICATOR SUBSTANCE WITH OXIDISING PROPERTIES AND INTEGRATED COLOR INDICATION FOR A REAL TIME VERIFICATION OF CLEANING PROCESSES IN THE FOOD AND BEVERAGE INDUSTRY

COMPOSITION AND DESCRIPTION

TM SMART ADD 12 is an intelligent color indicator substance based on the **THONHAUSER  PERSULPHATE TECHNOLOGIES**. This patented and notified technology provides dissolution properties for organic deposits like proteins, fats, saccharides, aromas, phenol compounds and oxalates by means of oxidation by hydroxyl radicals. It can also be used to detect organic deposits in pipe systems, vessels, tanks, heat exchangers or filling lines by means of a color indication system. The product is applied in conjunction with 0,5 % NaOH-solution.

COLOR	purple/magenta liquid
APPLICATION TEMPERATURE	40–50 °C (100–120 °F), max. 60 °C (140 °F)
SPECIFIC GRAVITY	1,22g/cm ³
pH-VALUE (1% solution bei 20 °C)	7,6–8,4
SHELF LIFE	6 month from date of production
STORAGE TEMPERATURE	+ 1 to + 25 °C (34 °F–77 °F)

AREAS OF USE

- Filling lines in the fruit juice or canning industry, dairies, delicatessen production
- Pasteurisation equipment for juices, fruit concentrates and functional drinks
- Cooking vessels for soup or sauce production
- Homogenisers and UHT equipment
- Heat exchangers in the brewery or winery
- Filling and production lines in the soft drink and mineral water industry

APPLICATION

1. Pre-Cleaning/CIP: An alkaline pre-cleaning step (CIP) should be carried out in order to remove higher quantities of remaining fatty and solid product deposits. This alkaline agent has to be a lime scale avoiding, emulsifying and surfactant free cleaner such as TM VIGOR 421. The aim of this pre-cleaning step is to remove heavy soiling from the plant. Duration: depending on the product.
2. Verification step with TM SMART ADD 12 and caustic soda: Prepare a 1 % solution by dissolving the concentrate in hot water of 140 °F (60 °C) (e. g. add 5gal of the concentrate to 500gal of water). Then add (NON blended) caustic soda e. g. 50 % solution at a concentration of 1–4 %. The solution has to be prepared in a clean tank. When using iron containing water TM SMART ADD 12 provides a complete iron precipitation in the preparation tank. That's how iron deposits in the pipe system are consequently avoided. In the return flow or at the end of the pipe system a color change to GREEN or YELLOW can be fully automatically captured by means of the TM PHOTO EYE. This color change visualizes the powerful start of the oxidation effect on organic substances. A constant (purple) color of the verification solution is a reliable indicator for an organic-free system. That's why the VIOLET color indicates the cleanliness of the system.
3. Rinse off the system with hot water or with micro filtered fresh water until pH is neutralized.


THONHAUSER
 an **AFCO** company

HEADQUARTERS AUSTRIA:
 Thonhauser GmbH
 Perlhofgasse 2/1, A - 2372 Gießhübl/Wien
cleaning@thonhauser.net

Alex C. Fergusson, LLC (AFCO):
 5121 Coffey Ave
 Chambersburg, PA 17201, USA
orderdesk@afco.net


AFCO UK:
 Unit 1A Caddick Road Knowsley Business Park
 L34 9HP Merseyside, UK
uk@afco-care.com

COMMON CLEANING AGENTS AND / OR TM SMART ADD 12

Common cleaning agents are based on the principle of hydrolysis, emulsification or reduction of surface tension and can easily be used before applying TM SMART ADD 12. In this case however a rinsing step with fresh water is required before using TM SMART ADD 12.

ADVANTAGES OF THE TM SMART ADD TECHNOLOGY

MAXIMIZING THE BENEFITS

- easy handling (no dangerous good classification required)
- online quality control during the cleaning procedure
- easy rinsing (see expertise by the University of Vienna, Institute for Geochemistry, February 2003)
- TM SMART ADD 12 does not contain any surfactants.
- Reliable technology! Facilitates HACCP-verification.
- Protected worldwide by international patents. **THONHAUSER**  **PERSULPHATE TECHNOLOGIES** set new standards for foodstuff safety and can be used as an instrument for putting "good manufacturing practice" into action.
- Provides safe reduction of micro organisms and reduces the risk of resistance build up by micro organisms.

REDUCING COSTS

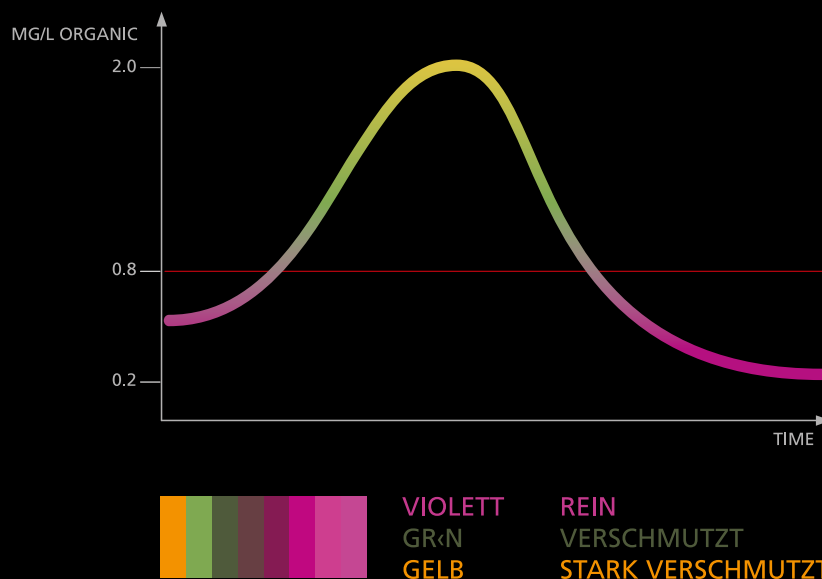
- Reliable detection and removal of organic deposits, also in applications where cleaning flow rates are low (e. g. heat exchangers, injectors, faceplates).
- Expensive inspections and maintenance work belong to the past!
- No environmentally harmful emissions, actually a reduction of the COD in the waste water can be expected.
- Optimising the used quantities of chemicals and the demand of rinsing water.

PRECISION

The detection limit for the **THONHAUSER PERSULPHATE TECHNOLOGIES** lies at approx. 0.3mg/l organics {ch₂o}, depending on the cleanness of the prep-water (threshold for drinking water currently at approx. 12mg/l organics).

A typical cip-cycle has approx. 0.9mg organics/cm² inner surface; this is equivalent to a medial layer of 50nm (at 80 % water).

The correlation between color value and micro-biological contamination in a circuit was proven by SGS FRESENIUS, Competence Center Food, Mineral Water & Beverages, Taunusstein, Germany.



TM SMART ADD 12 is chlorine free and does not corrode stainless steel (1.4301) or steel

Very good compliance for the dynamic and static application on sealings made from EPDM, FKM, HNBR and VNQ (See analysis carried out by FREUDENBERG Process Seals GmbH & Co.KG, D-68519 Viernheim).

Aluminium and sealing made from natural rubber are not compatible.

FORM OF DELIVERY: 23-kg-can, 240-kg-barrel.

MARKING ACCORDING TO THE CHEMICAL LAW: See MSDS.

For more information, please see the safety leaflet.

USE BIOCIDES SAFELY.

ALWAYS READ THE LABEL AND PRODUCT INFORMATION BEFORE USE.


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