

## Technical Information

## BREAK-THRU® S 233

## Product description

BREAK-THRU® S 233 is a patented non-ionic tri-siloxane surfactant. It increases the deposition of agrichemical sprays and improves the penetration of pesticide actives into plant tissue. Therefore it is specifically suited for enhancing the biological performance of systemic and semi-systemic products for herbicides, fungicides, insecticides and plant growth regulators.

## Physical properties

Viscosity at 20 °C	60 - 140 mPas
Density at 20 °C	1.02 - 1.03 g/ml
Type	100 % non-ionic
Flash point	> 100 °C
Pour point	5 °C
Appearance	liquid
Colour	colourless to pale straw

## Solubilities at 10 %

Water	soluble
Butanol	soluble
NMP	soluble
Cyclohexanone	soluble
Rapeseed methyl ester	soluble
Sunflower oil	dispersible
Solvesso™ 150	soluble
Isopar™ M	insoluble

## Application

In contrast to other surfactants of this class, BREAK-THRU® S 233 does not show super spreading, yet, exhibits excellent wetting. However, it does dramatically reduce surface tension of spray solutions to about 22 mN/m.

BREAK-THRU® S 233 can be used in tank mix applications without any incompatibility problems. It can as well be used in formulations e. g. EC, OD, SC, SL. For formulation assistance please contact us.

For tank-mixtures, pesticides manufacturers may suggest a rate of a non-ionic surfactant to be used with their product. Follow the corresponding label recommendation.

However, if the crop protection label does not have a specific recommendation for adjuvant use, BREAK-THRU® S 233 should be applied at rates listed here. Careful observation of spray performance in a trial application with the tank-mixture to be sprayed is advised to determine proper and efficient surfactant rates.

## Systemic &amp; contact pesticides

100 - 150 ml/ha

This recommendation accounts for various water volumes.

## Listing status

BREAK-THRU® S 233 is listed in the following chemical inventories:

EINECS, TSCA, DSL, AICS, ECL, ENCS, IECSC (China), PICCS.

Per EPA 40 CFR 180.910, BREAK-THRU® S 233 is exempt from the requirement of a tolerance when used in accordance with good agricultural practice as an inert ingredient in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest.

### Storage stability

BREAK-THRU® S 233 is stable in closed containers for at least 4 years. BREAK-THRU® S 233 is not sensitive to freezing.

### Packaging

4 x 200 kg drums (full pallet)  
1 000 kg plastic containers

### Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicity and ecological effects

is given in our material safety data sheets.

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