

HASTEN⁺

SPRAY ADJUVANT

HASTEN spray adjuvant is a blend of esterified vegetable oil and non-ionic surfactants that has :

- Proven cost effective performance for over 10 years with a wide range of agricultural products,
- Excellent plant and insect penetrating and wetting properties,
- An internationally recognised tradename and reputation for reliability,
- Approved for use as an Agricultural Adjuvant by local Regulatory Authorities in many countries including USA,
- Renewable material – Vegetable oil – as its base raw material,
- A high quality formulation providing easy dispersion and stable emulsion characteristics, and
- International Patents granted and pending.

Product Description

HASTEN is a unique spray adjuvant that has been designed to improve the efficacy of a wide range of agricultural products including Herbicides (selective and non – selective), Insecticides, Fungicides and Defoliants.

The use of adjuvants, such as **HASTEN**, with agricultural products has been the subject of extensive research, and they are well accepted by the agricultural industry based on the benefits they provide.

Some of the benefits that **HASTEN** provides include increased crop yields, lower input costs and reduced impact on the environment. **HASTEN** achieves these benefits for the agricultural industry through its unique, patented formulation.

HASTEN may be viewed as the third generation of oil based spray adjuvants due to its technology. The first generation adjuvants may be viewed as those based on emulsified petroleum oil products (COC). The second generation includes those products that are based on emulsified vegetable oils.

HASTEN is different to these two types of products because the active ingredient is a different class of oil known as esterified vegetable oil. In combination with a proprietary blend of non-ionic surfactants, **HASTEN** is also unique because the esterified oil is based on an ethyl ester in contrast with other commercial products that contain predominantly methyl esters.

When **HASTEN** is mixed with agricultural products and applied in the field, the non-ionic surfactants help to retain and improve the contact of the spray droplet on the plant or insect surface. The esterified oil is an excellent penetrating agent through waxy surfaces such as those of plants and insects thereby assisting the performance of the agricultural product. It is this dual action which makes **HASTEN** a very effective adjuvant.

Testing and Evaluation

Extensive testing and evaluation of **HASTEN** over the past 14 years by universities, lifescience companies, research organizations and independent researchers has proven that **HASTEN** is a very effective adjuvant for improving the performance of agricultural products. Based on independent university studies, it is well established that esterified vegetable oil products out perform both emulsified petroleum and vegetable oil based products in many situations.

HASTEN'S commercial success is confirmation that it can provide important cost effective benefits to the agricultural industry.

Commercial Use

HASTEN is successfully used in many countries around the world, with Australia and the USA being significant users. In Australia, **HASTEN** was commercialized in 1996 and is now recognized as a leading adjuvant. It is endorsed by lifescience companies including Bayer, BASF, Dow, Dupont, Sumitomo and Syngenta for use with their products and is recommended on their product labels in many situations. In the USA, **HASTEN** was commercialized in 1993 and continues to perform well in this sophisticated and diverse market.

Suggestions for Use

HASTEN may be used in place of non-ionic surfactants or crop oil concentrates when permitted by agricultural product labels.

Typically, **HASTEN** is added to the spray tank at a concentration of 0.5-1.0% when spray volumes are between 50-100 Litres per hectare. In situations where the agricultural practice is to use a higher volume than 100 Litres per hectare, **HASTEN** is typically used at 0.5-1.0 Litres per hectare.

The Company

Victorian Chemical Company is committed to providing quality products and professional and friendly service, that our customers can confidently rely on to add value to their businesses. In order to achieve this goal we will continue to develop, our understanding of our customer's requirements, the operations of our company and our technical expertise.

General Information

The information contained in this bulletin is of a general nature. Further information is available regarding **HASTEN'S** use with Herbicides, Insecticides, Fungicides and Defoliant. Please visit our web site at www.vicchem.com to access Label and MSDS information.

General Specifications

Appearance	Bright Clear Liquid
Specific Gravity (20°C)	0.9 g/ml
Colour	10 Gardner Max

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