



Technical Data Sheet

DOWSIL™ Q2-5212 Superwetting Agent

Performance enhancer for Agricultural Chemicals

Features & Benefits

- Very low surface energy
- Good spreading and wetting property
- Soluble in water
- Enhanced performance of water soluble herbicides on grasses
- Enhanced glyphosate herbicides regardless of the presence of tallow-amine surfactant

Composition

- Low viscosity silicone polyether

Applications

- To enhance the performance of agricultural chemicals such as fungicides, insecticides and plant growth regulators, especially water-soluble herbicides on grasses

Typical Properties

Specification Writers: These values are not intended for use in preparing specifications.

Property	Unit	Result
Appearance	NIL	Clear to slight hazy amber colored liquid
Viscosity at 25°C (77°F)	Cst	62
Flash Point, Closed Cup	°C (°F)	101 (214)

Description

DOWSIL™ Q2-5212 Superwetting Agent is a low molecular weight nonionic silicone polyether surfactant, developed to improve the wetting, spreading of agricultural chemicals.

DOWSIL™ Q2-5212 Superwetting Agent may be used as a formulation ingredient in pesticide products, or as a tank-mix adjuvant¹ for foliar-applied pesticide formulations.

DOWSIL™ Q2-5212 Superwetting Agent is “exempt from tolerances” under U.S. EPA Regulation 40 CFR 180.910.

¹“Use as an adjuvant” refers to the use of this product as an additive to a pesticide for the purpose of enhancing the pesticide’s effectiveness for wetting more of the leaf surface (delivering the pesticide to a greater surface area for increased leaf penetration) and thereby providing rain fastness.

Performance Characteristics

DOWSIL™ Q2-5212 Superwetting Agent significantly reduces the surface tension when compared to conventional nonionic surfactants.

At concentrations as low as 0.10 percent, DOWSIL™ Q2-5212 Superwetting Agent reduces surface tension below 23 dynes/cm, which produces very rapid wetting and spreading on hard-to-wet surfaces such as waxy leaves.

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DOWSIL™ Q2-5212 Superwetting Agent

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Performance Characteristics (Cont.)

Adding DOWSIL™ Q2-5212 Superwetting Agent to a herbicide tank-mix may enhance herbicidal efficacy, particularly in the control of grassy weeds with water soluble herbicides.

The rapid uptake produces “rain fastness”; i.e., herbicides are not washed off completely by rainfall after spraying.

Figures 1, 2 and 3 show the herbicidal efficacy enhancement achieved with DOWSIL™ Q2-5212 Superwetting Agent in greenhouse tests in rain and no rain conditions with low rates of Selective (Acifluorfen type) Herbicide and Post emergence (Glyphosate type) Herbicide.

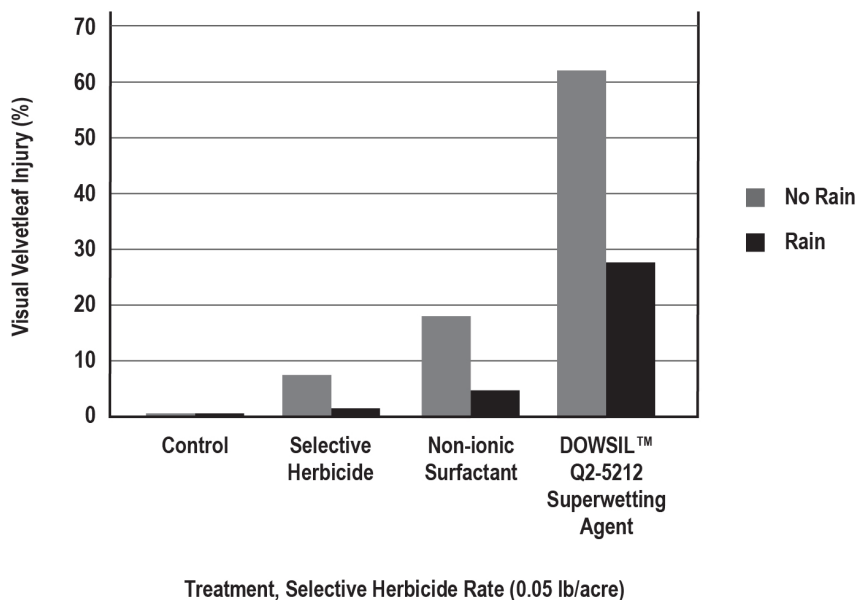


Figure 1: Effect of Surfactants on Activity of Selective Herbicide on Velvetleaf

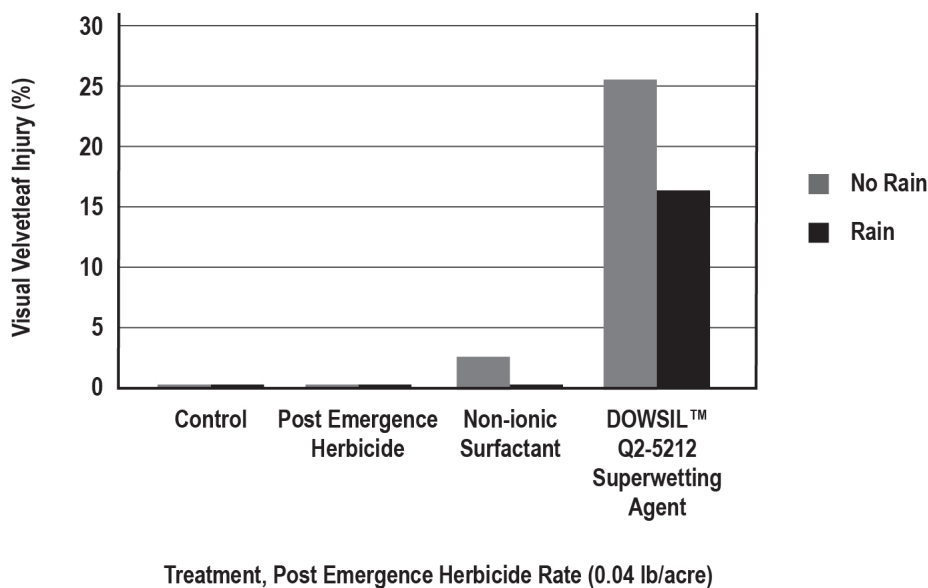


Figure 2: Effect of Surfactants on Activity of Post Emergence Herbicide on Velvetleaf

Performance Characteristics (Cont.)

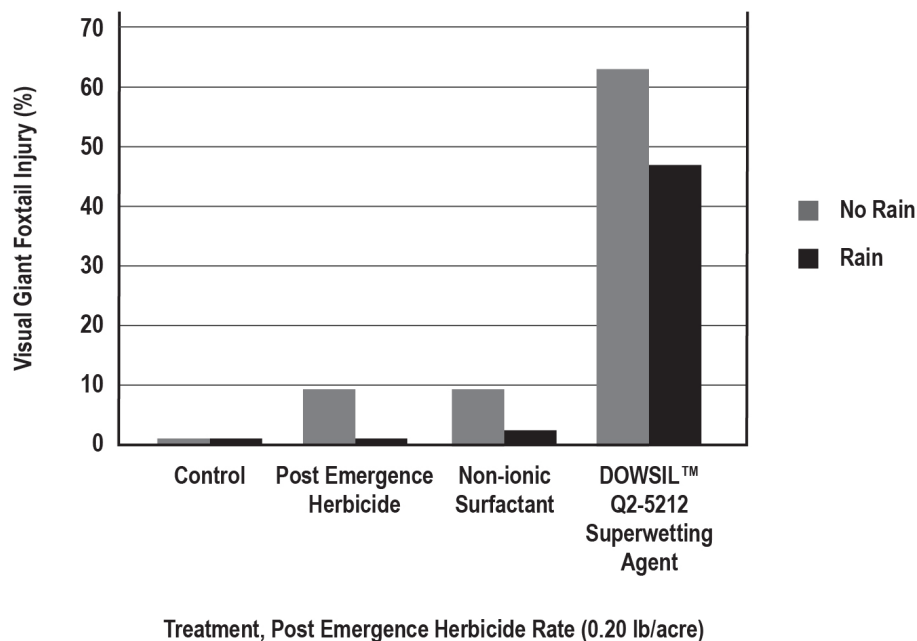


Figure 3: Effect of Surfactants on Activity of Post Emergence Herbicide on Giant Foxtail

How to Use

In Agricultural Chemical Formulations

DOWSIL™ Q2-5212 Superwetting Agent is stable in neutral aqueous formulations (pH=7), but will degrade rapidly in acidic or alkaline formulations.

New product formulations should be thoroughly tested for performance and shelf stability before taking to market.

As an Agricultural Chemical Tank-Mix Adjuvant

DOWSIL™ Q2-5212 Superwetting Agent may be added to tank-mixes to enhance the performance of the spray solution.

With herbicides, DOWSIL™ Q2-5212 Superwetting Agent should be used at the dosage of 1/5 to 1/2 pints per 100 gallons of spray solution (0.10 to 0.25 percent).

With insecticides and fungicides, it can be used at the dosage of 1/2 to 3 oz per 100 gallons of spray solution.

It is suggested to test a small area first to ensure that crop damage does not occur. Use pesticides according to manufacturers' label recommendation.

Handling Precautions

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED IN THIS DOCUMENT. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE ON THE DOW WEBSITE AT DOW.COM, OR FROM YOUR DOW SALES APPLICATION ENGINEER, OR DISTRIBUTOR, OR BY CALLING DOW CUSTOMER SERVICE.

Usable Life and Storage

When stored between 20 and 40°C (68 and 104°F), DOWSIL™ Q2-5212 Superwetting Agent has a shelf life of 24 months from date of manufacture.

Packaging Information

DOWSIL™ Q2-5212 Superwetting Agent is available in 500 ml (16.9 fl oz) samples and 200 kg (441 lb) drums and 20 kg (44 lb) pail packing.

Limitations

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

IMPORTANT NOTE: APPLICABLE LOCAL REGULATORY REQUIREMENTS MAY LIMIT THE USE OF THIS MATERIAL IN SPECIFIC APPLICATIONS, INCLUDING AGRICULTURAL. IT IS THE USER'S SOLE RESPONSIBILITY TO CONFIRM THAT ITS PRODUCT USE COMPLIES WITH ALL LOCAL, STATE (PROVINCIAL), AND COUNTRY REGULATIONS.

Health and Environmental Information

To support customers in their product safety needs, Dow has an extensive Product Stewardship organization and a team of product safety and regulatory compliance specialists available in each area.

For further information, please see our website, dow.com or consult your local Dow representative.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner.

It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

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