



Technical Bulletin

Key Points :

- Ready to use oil adjuvant
- For very stable W/O/W emulsion
- Easy to inject vaccines
- Induces a strong and long lasting immune response
- Known to stimulate humoral and cellular responses
- MERCKINADE™ listed on USDA and CDA

SDA 2033

Ready to use oil adjuvant for veterinary vaccines

MERCKINADE™ SDA 2033 is a mineral oil based adjuvant which has been developed for the manufacture of water-in-oil (W/O/W) emulsions. It comprises a high grade injectable mineral oil and an extremely refined emulsifier obtained from mannitol and purified oleic acid of vegetable origin. SDA 2033 is free of animal origin ingredients.

Vaccine formulations with MERCKINADE SDA 2033 induce a strong and long term immunity. Compared to traditional oil emulsions, MERCKINADE™ SDA 2033 emulsions are **very stable** and **easy to inject**.

1. VACCINE PREPARATION:

To prepare 100 g of vaccine, a typical preparation is made of:

- MERCKINADE SDA 2033 50g
- Aqueous antigenic media 50g

Stable preparations are obtained by mixing the aqueous medium into the MERCKINADE™ SDA 2033, at room temperature or less, under vigorous stirring. The use of a high shear mixer is necessary to prepare a stable and efficient vaccine.

2. EMULSION CHARACTERISTICS: (on placebo antigenic medium)

TYPE	VISCOSITY (mPa.s)	CONDUCTIVITY (mS/cm)	DROPLET SIZE (micron)	STABILITY		
				After storage at 4°C	After storage at 25°C	After storage at 37°C
W/O/W (water-in- oil-in-Water)	About 25 at 25°C	< 10 (placebo antigenic medium)	1 or less	More than 12 months	About 6 month	About 15 days

3. IMMUNE RESPONSE: MERCKINADE™ SDA 2033 is able to improve vaccine efficacy via the induction of a strong and long lasting immunity. It has been demonstrated that it is an excellent adjuvant to stimulate humoral and cellular responses. This product is similar with MERCKINADE™ SDA 2033, and is recommended for bacterial, mycoplasma, viral or parasite antigens.

4. ANIMAL SPECIES: MERCKINADE™ SDA 2033 adjuvant is recommended for different vaccines notably those for **cattle**, poultry, porcine, and **small ruminants**.

5. STRENGTH: MERCKINADE™ SDA 2033 adjuvant is especially recommended for emulsion with disturbing antigenic media. MERCKINADE™ SDA 2033, it is suitable when antigen immunogenicity is intrinsically low. It offers the possibility to reduce the injected dose or to dilute antigenic media while keeping the same level of protection.

6. SAFETY AND REGULATORY: The toxicological tests made on MERCKINADE™ SDA range (Berlin test, Oral LD 20, 6, IP LD 50, ocular irritation test, dermal irritation test, pyrogenicity) conclude to the non-toxicity and favourable tolerance of these adjuvants.

Merckinade™ adjuvants and their components have been considered as safe by the Committee for Veterinary Medical Products (CVMP) for use in immunological products and are included as authorized substances in the annex in the USDA APHIS and CDA registered veterinary commercial products.

The properties of the antigenic media are crucial for the vaccine efficacy but also for its safety. Each team developing a vaccine will have to study the safety and efficacy profile of the underdevelopment formula according to local market acceptance criteria.

For more information on this product or for any advice regarding the optimization of your vaccine, please contact our teams on www.sdabio.com