赛德奥生物科技（北京）有限公司
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BEIJING, CHINA 100058

Animal species

Technical Bulletin

SDA 7749

Ready to use oil adjuvant for veterinary vaccines

Key Points :

- **Ready to use oil adjuvant**
- **For very stable *m* - 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 as SDA BIO

SDA 7749 is a mineral oil based adjuvant which has been developed for the manufacture of micro (~20nm) O/W emulsions. It comprises a high grade injectable mineral oil and extremely refined emulsifiers obtained from mannitol, sorbitol, polythelene glycol and purified oleic acid of vegetable origin. SDA 7749 is free of animal origin ingredients.

Vaccine formulations with MERCKINADE SDA 7749 induce a strong and long term immunity. Compared to traditional oil emulsions, MERCKINADE™ SDA 7749 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 7749 100g
- Aqueous antigenic media 400-900g

Stable preparations are obtained by mixing the aqueous medium into the MERCKINADE™ SDA 7749, 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
O/W (oil-in-Water)	About 25 at 25°C	~10 (placebo antigenic medium)	~20	More than 12 months	About 6 month	> 120 days

3. IMMUNE RESPONSE: MERCKINADE™ SDA 7749 is able to improve vaccine efficacy via the induction of a strong short term 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 7749, and is recommended for bacterial, mycoplasma, viral or parasite antigens

4. ANIMAL SPECIES: MERCKINADE™ SDA 7749 adjuvant is recommended for different vaccines notably those for **cattle,** poultry, porcine, and **small ruminants.**

5. STRENGTH: MERCKINADE™ IMS adjuvant is especially recommended for emulsion with disturbing antigenic media. MERCKINADE™ SDA 7749, 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 206, IP LD50, ocular irritation test, dermal irritation test, pyrogenicity) conclude to the non-toxicity and favourable tolerance of these adjuvants.

Merckinade™ adjuvants is SDA BIO brand and their components, in trace amount of span, tween, Pluronic copolymer, mineral oil, 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

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MERCKINADE SDA 7749
NanoImmunoComplex Type
IMS Vaccine Adjuvant

Product ID: SDA7749
Batch Number: SDA7749202502B
Manufacturing Date: 02/08/2025
Batch Quantity: 5000 Litter
Expiry Date: 02/07/2027

Analysis	Specification	Result
Emulsion Type	Oil-in-Water	Confirmed
Emulsion Viscocity (mPa.s)	< 20	16
Emulsion Conductivity (mS/cm)	8-14	9.4
Emulsion Particle Size（μm）	< 0.5	0.04
Emulsion Dispersion	< 0.25	0.16
Emulsion Stability (1: 9 PBS, Centrifuge at 3000 RPM, 30 min）	No Separation	Confirmed
Sulfide Residue （%）	< 0.05	0
Heavy Metal （ppm）	< 0.10	0
Abnormal Toxicity	None	Confirmed
Peroxide Value（mMoles/kg）	< 3.0	0.4
Acid Value (mg KOH/g)	< 1.0	0.4
Iodine Value (g/100g, %)	0.5-1.0	0.8
Saponification Value (mg KOH/g)	15-20	17.0
Hydroxyl Value (FFA %)	0.1-0.2	0.17

I hereby certify that thistch of product was manufactured and quality control tested in fullcompliance with the current manufacturing and QC procedures, withinternal requirements and with specifications.

Jasmine Nee

Quality Assurance Department
SDA BIO 331 Goldsboro Avenue,
Sanfrd, NC

Date: 02-23-2025

Size Distribution Report by Intensity

v2.2

Malvern

Sample Details

Sample Name: SDA7749

SOP Name: SDA1023

General Notes:

File Name:	062021.dts	**Dispersant Name:**	Water
Record Number:	41	**Dispersant RI:**	1.330
Material RI:	1.34	**Viscosity (cP):**	0.8872
Material Absorbtion:	0.010	**Measurement Date and Time:**	07/14/2025 15:53:09

System

Temperature (°C):	25.0	**Duration Used (s):**	60
Count Rate (kcps):	242.9	**Measurement Position (mm):**	3.00
Cell Description:	Disposable micro cuvette (40µl)	**Attenuator:**	7

Results

			Size (d.nm):	% Intensity:	St Dev (d.n...
Z-Average (d.nm):	21.15	**Peak 1:**	23.31	100.0	7.458
PdI:	0.113	**Peak 2:**	0.000	0.0	0.000
Intercept:	0.947	**Peak 3:**	0.000	0.0	0.000

Result quality : Good