



TRI-SOLFEN[®]

Better Choices • Better Outcomes

Topical anaesthetic and antiseptic for lambs

Animal welfare is important for your livestock and for you

The practices of mulesing, castration and tail docking lambs are considered essential to good flock management and the ongoing welfare of your sheep. These procedures reduce sexual activity, help to avoid blowfly strike and carcase damage. All of which lead to improved welfare for the animals.

Producers, their customers, and consumers are more interested than ever before in animal welfare and an important aspect of that is managing and controlling pain when these types of procedures are carried out.

BEST PRACTICE IS ESSENTIAL FOR OUR INDUSTRY

The Australian Animal Welfare Standards and Guidelines for sheep was first introduced in Australia in 2016. In these guidelines there are

specific references to the use of pain relief when carrying out procedures such as mulesing, castration and tail docking as quoted below.

- **Standard S6.1** – A person must not tail dock sheep that are more than six months old without using appropriate pain relief and haemorrhage control for the sheep.
- **Guideline G6.14** – Tail docking and castration should be accompanied by pain relief when practical and cost-effective methods become available. Operators should seek advice on current pain minimisation strategies.
- **Guideline G7.8** – Mulesing should be accompanied by pain relief where practical and cost-effective methods are available. Operators should seek advice on current pain minimisation strategies.

Where does Tri-Solfen fit in?

Tri-Solfen is an easy to administer, non-prescription formulation with a powerful combination of two local anaesthetics for instant and longer-term **pain relief**, adrenaline to **reduce bleeding** and an antiseptic agent to help **reduce infection risk**. Tri-solfen's gel formulation also helps to **seal the wound** for improved wound healing.

Tri-Solfen is the only product registered in Australia for sheep that has four modes of action, leaving it unrivaled when it comes to the treatment of surgical wounds in animals.

Clinical studies, conducted by world leading universities, have shown the positive effect Tri-Solfen has on reducing pain. Importantly, over many years, producers have seen the proof of Tri-Solfen's positive effects on stock behaviour, right from the moment it is applied.

Tri-Solfen fits perfectly with your goal to provide a high standard of care for your livestock. And it also fits with the industry's objective to meet consumer expectations that livestock production must include a high level of consideration for animal welfare.

“The development and use of Tri-Solfen is crucial in advancing animal welfare in Australia. It's an important step in diminishing the concerns of producers and consumers on the adverse welfare outcomes of pain inflicted during interventions performed routinely in livestock husbandry.”

Peter A Windsor, DVSc PhD DipECSRHM
Professor Emeritus, The University of Sydney, NSW

How does Tri-Solfen work?

Tri-Solfen is a viscous liquid that is easily applied to surgical wounds using the dedicated Tri-Solfen applicator.

Tri-Solfen's novel formulation contains a unique combination of 4 ingredients:

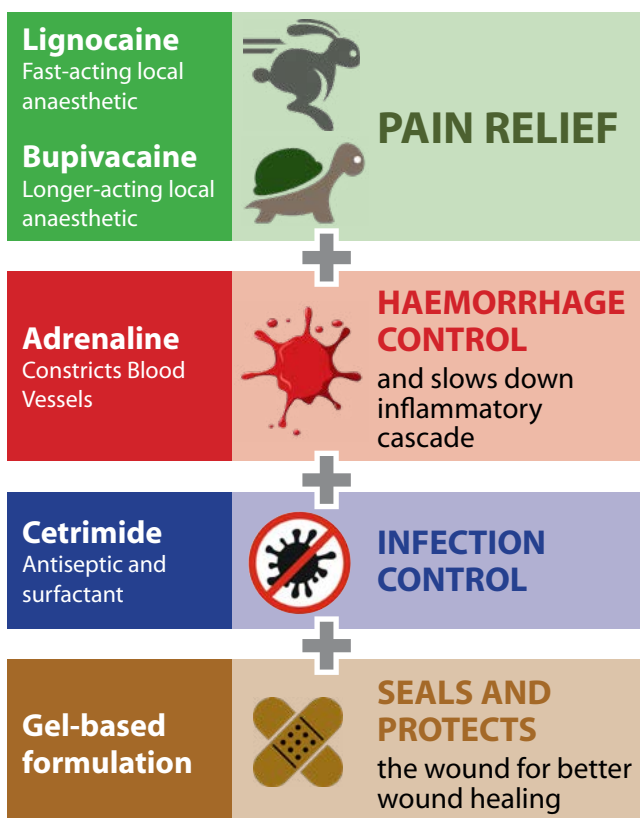
- **Lignocaine** and **Bupivacaine** – local anaesthetics that provide pain-relief on surgical wounds.

- **Adrenaline** – to reduce bleeding.
- **Cetrimide** – an antiseptic agent to help reduce the risk of infection.

And there's another important benefit. When applied correctly with the dedicated Tri-Solfen applicator it forms a gelling foam over the wound that helps to protect the wound from secondary infection and aids in the wound healing process.

Tri-Solfen is a unique 4-in-1 wound care product

THERE'S NO OTHER PRODUCT LIKE IT!



1. Both fast and longer acting pain relief

Lignocaine – is a fast-acting anaesthetic, commonly used in surgical procedures in humans and animals. In Tri-Solfen it provides animals with fast acting pain relief.

Bupivacaine – is a longer-acting anaesthetic that provides prolonged pain relief.

The unique formulation blocks the nerve signals from damaged tissue that are responsible for the sensation of pain. This reduces the animal's pain response, resulting in animals becoming visibly more comfortable and importantly returning to their normal feeding and mothering up.

2. Reduction in post-operative bleeding

Adrenaline – works by constricting blood vessels that have been cut during surgery. This reduces the loss of blood and limits the risk associated with increased stress and shock to the animal. Adrenaline also reduces the rate of systemic absorption of anaesthetics. This, in turn, helps prolong the anaesthetic effect of Tri-Solfen.

3. Reduced wound healing time

Cetrimide – is an antiseptic agent. It helps reduce the risk of bacterial contamination and infection of wounds. Infection sets back the healing process and in the worst cases can lead to mortality. Reduced bleeding from adrenaline and the disinfectant qualities of cetrimide help the healing process to get started faster. It is also important to disinfect the equipment you are using for any surgical procedures.

4. Reducing inflammation and long-term pain

Reducing bleeding and infection helps to minimise the inflammation process, reducing and slowing down the pain cascade process.

The unique Tri-Solfen formulation assists in the reduction of inflammation in the first 24 hours after the surgical procedure and plays a role in reducing the pain.

Independent university research

TRI-SOLFEN PROVIDES FAST (1 MIN) AND LONG (24 HRS) PAIN RELIEF

The University of Sydney trialled wound pain using the von Frey monofilaments to determine sensitivity to pain stimulation.

In a study of wool producers carried out by the AWI*

in 2017 it is estimated that 83% of lambs which are mulesed are treated with pain relief. The study estimates that in at least 99% of cases Tri-Solfen was the product of choice for these treatments.

*AWI 2017 Merino Husbandry Practices Survey

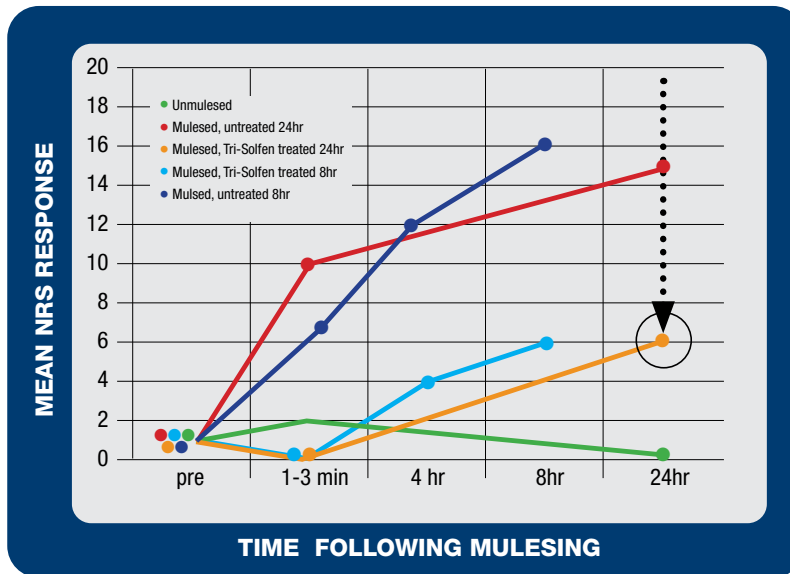


Figure 1: Graph showing a significantly lower pain response in Tri-Solfen treated lambs at all time points (the lower the numerical rating scale (NRS), the lower the measure of pain).

What should I know about application?

Always read the label for correct dosing and other relevant information – including correct hygiene and the cleaning of applicators.

Tri-Solfen is applied to the wound using the specifically designed Tri-Solfen applicator. **You must use this applicator** because the spray tip and castration nozzle have been designed to ensure that Tri-Solfen is converted from liquid to a foaming gel that adheres to the wound.

The applicator comes with a short fan tip that is suitable when mulesing or tail docking.

When castrating **you must use** the special castration nozzle which is designed to deliver Tri-Solfen into the vaginal tunic (tunica vaginalis). If you don't have a second applicator the castration nozzle will also generate the fan and gelling foam effect needed for treating mulesing or tail docking wounds.

To create the foam you need to operate the applicator firmly and quickly.



Castration Nozzle

Key steps to getting good results with Tri-Solfen are:

- Only use the Tri-Solfen applicator.
- Pull the trigger firmly and quickly enough to generate the gelling foam.
- Read the label and use the correct dose.
- Apply the product onto the complete area of the wound – if the wound is missed apply further doses.
- When castrating – use the special castration nozzle and follow the label application directions.

Mulesing

MULESING DOSE RATES:

For mulesing, each dose of Tri-Solfen is applied in 2 ml increments. The heavier the animal being treated, the higher the required dose rate.

LIVEWEIGHT	NUMBER OF 2ML SPRAYS PER ANIMAL	TOTAL DOSE
5 – 10kg	3	6ml
11 – 15kg	4	8ml
16 – 20kg	5	10ml
Over 20kg	6	12ml

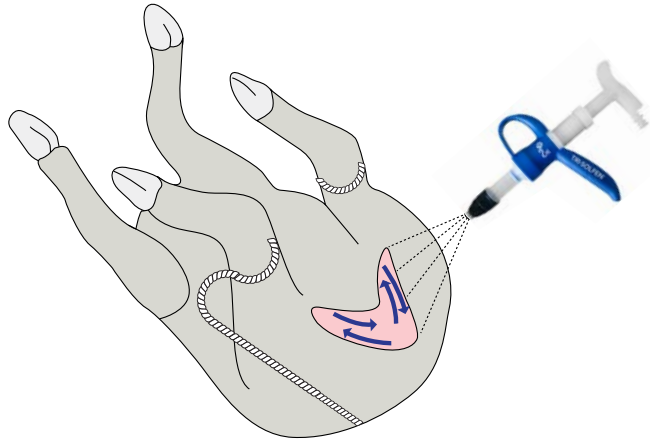
MULESING APPLICATION:

Step 1:

Apply Tri-Solfen immediately after mulesing.

Step 2:

Apply Tri-Solfen as a series of stripes up and down the wound for full coverage of the wound and tail.



Tail Docking

TAIL DOCKING APPLICATION:

Step 1: Remove the tail either surgically or with a hot iron, as per the usual procedure.

Step 2: Apply the Tri-Solfen spray to the wound immediately after tail docking.

TAIL DOCKING DOSE RATES:

LIVEWEIGHT	NUMBER OF SPRAYS PER ANIMAL	TOTAL DOSE
Lambs up to 10kg	1	1.5ml
Lambs over 10 kg	1	2ml

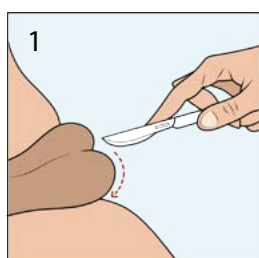
Castration - use castration nozzle

CASTRATION DOSE RATES:

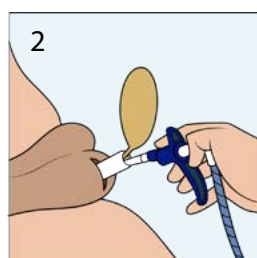
For castration, each dose of Tri-Solfen is applied in 3 parts. One third inside the vaginal tunic of each testicle and the final third to the edges of the scrotal skin wounds.

LIVEWEIGHT	INSIDE VAGINAL TUNIC – STEP 3	EXTERNAL INCISIONS – STEP 4	TOTAL DOSE
Lambs up to 10kg	2 x 1ml	1ml	3ml
Lambs over 10kg	2 x 1.5ml	1.5ml	4.5ml

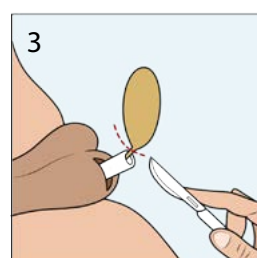
CASTRATION APPLICATION:



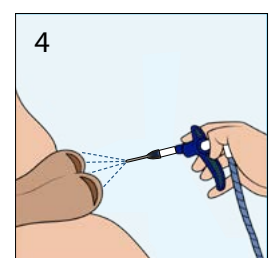
1
Cut through skin of the scrotum with a scalpel as per normal procedure.



2
Insert nozzle of applicator as far into the vaginal tunic as possible and eject 1/3 of the total dose.



3
Remove testis as per usual procedure. Repeat steps 1–3 on the other side of scrotum to remove the second testis.



4
Apply final third of the dose to the edges of the scrotal skin incision.

WITHHOLDING PERIODS:

MEAT: Treated sheep must not be supplied or sold for slaughter for human consumption for at least 90 days following treatment.

MILK: DO NOT USE on lactating or pregnant ewes where milk may be used or processed for human consumption.

TRADE ADVICE: Export Slaughter Interval (ESI): DO NOT USE less than 90 days before slaughter for export. Before using this product confirm the current ESI on the APVMA website:

www.apvma.gov.au.

PACK SIZES AVAILABLE:

Tri-Solfen is available in 1L, 5L and 20L packs



Better Choices

Better Choices® is an audited welfare program for woolgrowers who follow an integrated, planned approach to achieve best-practice welfare for husbandry procedures in sheep.

If you're a wool grower, the Better Choices® program enables you to certify and declare that your wool uses best-practice methods. The program's certification signposts to members of the community and to retailers that the production methods you use are in line with the program and importantly

you are working to create a better life for livestock. To renew an existing Better Choices registration or to create a new registration go to the Better Choices website www.betterchoices.com.au or call **1300 595 250**. Or contact your local Dechra Veterinary products Territory Sales Manager.



References:

1. Australia Animal Welfare Standards and Guidelines for Cattle. Endorsed Jan 2016
2. Lomax, S. and Windsor, P.A. (2013). Topical anaesthesia mitigates the pain of castration in beef calves. J.Anim. Sci. 91:4945-4952
3. Espinoza, C. Lomax, S. and Windsor, P (2010). The effect of topical anaesthesia on pain alleviation in calves post-dehorning. Proceedings of the 44th Congress of the International Society of Applied Ethology (ISAE).

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