

## **SUMMARY OF PRODUCT CHARACTERISTICS**

### **1. NAME OF THE VETERINARY MEDICINAL PRODUCT**

Paramove, 49.5% w/w Hydrogen Peroxide concentrate for solution for fish treatment.

### **2. QUALITATIVE AND QUANTITATIVE COMPOSITION**

#### **Active substance:**

49.5% w/w Hydrogen Peroxide

#### **Excipients:**

| <b>Qualitative composition of excipients and other constituents</b> |
|---------------------------------------------------------------------|
| Disodium dihydrogen diphosphate                                     |
| Nitric Acid                                                         |
| Demineralised Water                                                 |

Clear, colourless liquid.

### **3. CLINICAL INFORMATION**

#### **3.1 Target species**

Atlantic Salmon

#### **3.2 Indications for use for each target species**

For the treatment of salmon suffering from infestation with motile (pre-adult to adult) sea lice, *Lepeophtheirus salmonis* or *Caligus* spp, prior to the stage where serious tissue damage occurs.

#### **3.3 Contraindications**

Do not exceed the recommended concentration of hydrogen peroxide.

Do not use at high water temperatures. Extreme care should be taken if using hydrogen peroxide at water temperatures above 14°C. If treatment is unavoidable, hydrogen peroxide concentration and contact time should be reduced. If signs of atypical behaviour, e.g. fish losing equilibrium or hyperactivity are observed, treatment should be stopped immediately.

Do not use in fish with a mean weight of less than 200g.

Do not treat fish which are showing clinical signs of previous gill damage. If signs of atypical behaviour, e.g. fish losing equilibrium or hyperactivity are observed, treatment should be stopped immediately. An assessment of gill condition and the possibility of other stressors e.g. algal blooms should be made before commencement of treatments. Do not use in stressed fish.

### **3.4 Special warnings**

Repeated use of the same chemotherapeutic agent may encourage the development of resistance to the agent.

### **3.5 Special precautions for use**

#### Special precautions for safe use in the target species:

If problems occur when raising nets or setting the tarpaulin extending the time that fish are constricted within the treatment bath, extra care should be taken as fish may be unduly stressed prior to hydrogen peroxide addition.

In the event that fish begin to lose their equilibrium and possibly begin to sink during treatment with hydrogen peroxide, tarpaulins must be removed immediately. Residual hydrogen peroxide should be flushed from the cage using the wash from a boat.

Oxygen sparges should remain in the cage even if they are not used during the treatment. This provides the ability to agitate moribund fish preventing them settling on the floor of the net. Affected fish should recover after a short period when nets may be dropped to their full extent.

If during treatment with hydrogen peroxide fish become hyperactive, this may be indicative of increased hydrogen peroxide concentrations or that fish have become unduly stressed.

Hydrogen peroxide concentration may be tested using the Solvay test method and dissolved oxygen should be monitored to prevent an oxygen crash occurring. In the event that the hydrogen peroxide and dissolved oxygen concentration are normal but hyperactivity persists, treatment should be stopped. This should prevent a subsequent oxygen crash and minimise scaling of fish.

The nets should be partially lowered to increase the volume of water available to the fish and hydrogen peroxide residuals should be flushed away using the wash from a boat. These actions should relieve any undue stress to the fish. The activity of the fish should be allowed to return to normal before the nets are completely dropped.

Special precautions to be taken by the person administering the veterinary medicinal product to animals:



DANGER

Oxidising Agent



Corrosive



Do not attempt to administer the veterinary medicinal product unless you have been fully trained to handle and use the veterinary medicinal product and are fully aware of operational and safety procedures.

Hydrogen peroxide is corrosive.

This veterinary medicinal product is harmful if swallowed or if inhaled and may cause respiratory irritation. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Avoid contact with skin and eyes. This product may cause skin irritation and serious eye damage.

Wear personal protective equipment whilst handling this veterinary medicinal product, consisting of chemically resistant headgear, face shield or safety goggles, chemically resistant PVC acid suit / oilskins, chemically resistant PVC gloves (with cuff under suit) and safety rubber wellington boots (with suit over boots).

Before commencing handling of this veterinary medicinal product ensure a supply of fresh water and preferably eye wash solutions are available.

IN CASE OF INHALATION: Remove person to fresh air and keep comfortable for breathing. If you feel unwell SEEK IMMEDIATE MEDICAL ATTENTION by calling a physician or National Poisons Information Centre.

IN CASE OF ACCIDENTAL EYE CONTACT: Rinse immediately with plenty of clean water for several minutes. SEEK IMMEDIATE MEDICAL ATTENTION by calling a physician or National Poisons Information Centre. Remove any contact lenses, if easy to do so and continue rinsing eyes.

IN CASE OF ACCIDENTAL SKIN CONTACT: Immediately remove any contaminated clothing. Wash the exposed skin immediately with water and seek medical advice if irritation persists. Thoroughly clean the contaminated clothing by soaking with plenty of water before re-using.

Always wash hands with soap and water directly after use.

Special precautions for the protection of the environment:

Depending on regional requirements, the user may need to apply for and obtain consent for discharge. Check with the relevant regional legislative body e.g. SEPA in Scotland.

The most important mechanism for removal of hydrogen peroxide in coastal waters is dilution and degradation which are increased by water movements including the flushing effects in sea lochs. Do not use at times of slack water as poor dilution and dissociation of residuals may occur. After treatment care should be taken to provide sufficient water exchange through the net to dilute residual hydrogen peroxide. The wash from a boat's propeller may be used to increase water exchange in cases where low water exchange rates cannot be avoided. These measures will help to prevent possible adverse effects on aquatic life.

Other precautions:

Do not allow concentrated veterinary medicinal product to contaminate wood, paper, grass or any other combustible materials as this may cause fire.  
A water hose or other plentiful water supply should be available to dilute any spills and leaks of the product.

Do not return any product to original container.

Use clean and vented containers to retain any spilled product.

### **3.6 Adverse events**

Target species: Atlantic Salmon

|                                                                             |                                                                             |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Very rare (<1 animal / 10,000 animals treated, including isolated reports): | Gill disorder NOS, Fish sinking, Abnormal swimming in fish (hyperactivity). |
|-----------------------------------------------------------------------------|-----------------------------------------------------------------------------|

Reporting adverse events is important. It allows continuous safety monitoring of a veterinary medicinal product. Reports should be sent, preferably via a veterinarian, to either the marketing authorisation holder or the national competent authority via the national reporting system. See the package leaflet for respective contact details.

### **3.7 Use during pregnancy, lactation or lay**

Not applicable.

### **3.8 Interaction with other medicinal products and other forms of interaction**

Hydrogen peroxide should not interact with other medicaments as it is not systemic and is purely a physical treatment. If fish are stressed due to over handling or disease, any form of lice treatment would produce further stress. However, this may be less detrimental than the lice burden.

Where medicaments have been given and gill function may be compromised, hydrogen peroxide should not be administered.

Refer to section 3.5 for further information.

### **3.9 Administration routes and dosage**

For external use only.

As the volume of water enclosed within the tarpaulin, temperature and duration of treatment impact on efficacy, the dosing instructions and regimen should be adhered to.

By total enclosure method at a concentration of approximately 1500 mg/l<sup>-1</sup> as hydrogen peroxide for a maximum of 20 minutes contact.

Infested fish should be bathed in 1500 mg/l<sup>-1</sup> hydrogen peroxide for a period of between 15 and 20 minutes. The contact time being dependent on the final concentration of hydrogen peroxide. The contact time should be decreased as water temperature exceeds 14°C.

The veterinary medicinal product is administered by the total enclosure method in which the fish cage net is raised to an approximate depth, e.g. 2 m. Then a tarpaulin is drawn beneath the net to produce the treatment bath. When this procedure has been accomplished, checks should be made to ensure that fish do not become trapped within folds of the net. Sufficient oxygen diffusers should be placed in the treatment enclosure to support the number and size of fish present. Oxygen should now be applied to the system.

Care should be taken when setting the tarpaulin so as not to unduly reduce the volume of the treatment bath. If fish treatment densities are too high, scaling and hyperactivity may occur. A suggested maximum treatment density would be 150 kgm<sup>-3</sup> but this would be dependent on fish size, year class etc. Fish must not be fed for at least 24 hours prior to treatment.

If nets are heavily fouled, care should be taken when using hydrogen peroxide. Bottle weights should be applied around the periphery of the treatment bath to prevent flotation of the net. These should be applied before commencing treatment.

The estimated volume of the veterinary medicinal product to produce the treatment concentration of approximately 1500 mg/l<sup>-1</sup> hydrogen peroxide should now be administered using safe and compatible dosing equipment. To achieve an effective concentration of 1500 mg/l<sup>-1</sup> in a cage, you will need approximately 2.6 litres of the veterinary medicinal product for every metre cube of water to be treated.

The following steps should be followed before any treatment commences:

1. Assess the water volume to be treated in m<sup>3</sup>.
2. Multiply the water volume by 2.55 to obtain the volume in litres of product required to achieve a concentration of 1500 mg/l<sup>-1</sup> hydrogen peroxide.
3. Add the product to the cage using the dedicated dosing equipment and the volume scale on the ISO to measure the approximate volume.
4. Once the addition is complete, a sample of the treated water should be taken and analysed immediately to obtain the confirmation of concentration in the cage.

Samples of water should be taken at several points to assess the concentration of the treatment solution using the simple titration test method provided.

If the treatment concentration is found to be low, sufficient hydrogen peroxide should be added to achieve the treatment concentration. The required volume of produce to be added may be estimated from the following table:

1. Locate the concentration as measured on assay in the row across the top.
2. Proceed down this column to reach the row associated with the initial estimated volume.
3. The resulting figure gives the additional volume to be added to the pen.

| Estimated water volume (m <sup>3</sup> ) | Volume of Paramove to add (L) | Estimated water volume (m <sup>3</sup> ) | Additional volume Paramove to add in litres if reading is (mg/l <sup>-1</sup> ) |       |      |      |      |      |      |      |
|------------------------------------------|-------------------------------|------------------------------------------|---------------------------------------------------------------------------------|-------|------|------|------|------|------|------|
|                                          |                               |                                          | 700                                                                             | 800   | 900  | 1000 | 1100 | 1200 | 1300 | 1400 |
| 25                                       | 64                            | 25                                       | 73                                                                              | 56    | 42   | 32   | 23   | 16   | 10   | 5    |
| 50                                       | 127                           | 50                                       | 146                                                                             | 111   | 85   | 64   | 46   | 32   | 20   | 9    |
| 75                                       | 191                           | 75                                       | 218                                                                             | 167   | 127  | 95   | 69   | 48   | 29   | 14   |
| 100                                      | 255                           | 100                                      | 291                                                                             | 223   | 170  | 127  | 93   | 64   | 39   | 18   |
| 125                                      | 318                           | 125                                      | 364                                                                             | 279   | 212  | 159  | 116  | 80   | 49   | 23   |
| 150                                      | 382                           | 150                                      | 437                                                                             | 334   | 255  | 191  | 139  | 95   | 59   | 27   |
| 175                                      | 446                           | 175                                      | 509                                                                             | 390   | 297  | 223  | 162  | 111  | 69   | 32   |
| 200                                      | 509                           | 200                                      | 582                                                                             | 446   | 340  | 255  | 185  | 127  | 78   | 36   |
| 225                                      | 573                           | 225                                      | 655                                                                             | 501   | 382  | 286  | 208  | 143  | 88   | 41   |
| 250                                      | 637                           | 250                                      | 728                                                                             | 557   | 424  | 318  | 231  | 159  | 98   | 45   |
| 275                                      | 700                           | 275                                      | 800                                                                             | 613   | 467  | 350  | 255  | 175  | 108  | 50   |
| 300                                      | 764                           | 300                                      | 873                                                                             | 668   | 509  | 382  | 278  | 191  | 118  | 55   |
| 325                                      | 828                           | 325                                      | 946                                                                             | 724   | 552  | 414  | 301  | 207  | 127  | 59   |
| 350                                      | 891                           | 350                                      | 1019                                                                            | 780   | 594  | 446  | 324  | 223  | 137  | 64   |
| 375                                      | 955                           | 375                                      | 1091                                                                            | 836   | 637  | 477  | 347  | 239  | 147  | 68   |
| 400                                      | 1019                          | 400                                      | 1164                                                                            | 891   | 679  | 509  | 370  | 255  | 157  | 73   |
| 425                                      | 1082                          | 425                                      | 1237                                                                            | 947   | 722  | 541  | 394  | 271  | 167  | 77   |
| 450                                      | 1146                          | 450                                      | 1310                                                                            | 1003  | 764  | 573  | 417  | 286  | 176  | 82   |
| 475                                      | 1210                          | 475                                      | 1382                                                                            | 1058  | 806  | 605  | 440  | 302  | 186  | 86   |
| 500                                      | 1273                          | 500                                      | 1455                                                                            | 1114  | 849  | 637  | 463  | 318  | 196  | 91   |
| 750                                      | 1910                          | 750                                      | 2183                                                                            | 1671  | 1273 | 955  | 694  | 477  | 294  | 136  |
| 1000                                     | 2546                          | 1000                                     | 2910                                                                            | 2228  | 1698 | 1273 | 926  | 637  | 392  | 182  |
| 2000                                     | 5093                          | 2000                                     | 5821                                                                            | 4456  | 3395 | 2546 | 1852 | 1273 | 784  | 364  |
| 3000                                     | 7639                          | 3000                                     | 8731                                                                            | 6684  | 5093 | 3820 | 2778 | 1910 | 1175 | 546  |
| 5000                                     | 12732                         | 5000                                     | 14551                                                                           | 11141 | 8488 | 6366 | 4630 | 3183 | 1959 | 909  |

If treatment concentration is high, the contact time may be reduced or the tarpaulin should be dropped. A contact time of between 15-20 minutes should prove sufficient for effective

removal of lice. Measurement of the concentration of hydrogen peroxide in solution should be continued during the treatment and after the tarpaulin has been removed to ensure efficient dispersion has occurred.

During the treatment, fish must be observed for any signs of atypical behaviour. If fish appear distressed, e.g. losing equilibrium or becoming hyperactive during the treatment, remove the tarpaulin and lower the net. Reference should be made to section 3.5.

After treatment ensure that residual hydrogen peroxide is dispersed in the local vicinity as quickly as possible, perhaps using the wash of a boat propeller.

Merckoquant 110011 teststicks (Graduations: 0.5-2-5-10-25 mg/l) or Reflectoquant teststicks Merck 116974 (Range 0.2 – 20 mg/l) or similar commercially available test kits may be used to monitor low levels of residual hydrogen peroxide. Methods of analysis, advice on test kits, dosing equipment and product handling, and Safety Data Sheets for the product are available from the supplier.

A second application may be required (dependent on routine lice monitoring), to ensure the removal of previously surviving chalami, which will have moulted through to pre-adult stages. Care should be taken not to allow a build up of mature lice as resettlement of copepodids could occur.

Where possible, treatments should be conducted during periods of high tidal flow to ensure good dispersal of residual hydrogen peroxide and dislodged lice. This will minimise any possible resettlement of lice.

### **3.10 Symptoms of overdose (and where applicable, emergency procedures and antidotes)**

An overdose situation may occur by two methods:

- i) Addition of too much hydrogen peroxide to the treatment bath producing a higher concentration than recommended. In this event refer to contraindications and warnings.
- ii) Extended contact period above the recommended 15-20 minutes. This may be due to the poor dispersion of hydrogen peroxide after treatment. In this event refer to contraindications and warnings.

Strong solutions of hydrogen peroxide produce irritation and 'burning' of skin and mucous membranes or gills.

Emergency procedures: remove tarpaulins immediately and flush hydrogen peroxide from the cage using the wash from a boat.

### **3.11 Special restrictions for use and special conditions for use, including restrictions on the use of antimicrobial and antiparasitic veterinary medicinal products in order to limit the risk of development of resistance**

Not applicable.

### **3.12 Withdrawal periods**

Meat: Zero degree days.

## **4. PHARMACOLOGICAL INFORMATION**

### **4.1 ATCvet code: QD08AX01**

### **4.2 Pharmacodynamics**

Water containing hydrogen peroxide may diffuse into the body of the lice or be drawn into the gut by normal biological processes, e.g. feeding. Once within the body of the louse, dissociation to of the hydrogen peroxide in to oxygen and water may cause temporary or permanent disruption to internal structures, causing the parasite to detach from the host.

Resistance to hydrogen peroxide has been reported on one farm after fish were treated with hydrogen peroxide regularly (41 treatments) over a 6 year period. The proposed mechanisms of resistance were genetic selection of individuals with a cuticle that provides a barrier to penetration by hydrogen peroxide or the presence of detoxifying enzymes.

### **4.3 Pharmacokinetics**

#### **Absorption**

As hydrogen peroxide is administered typically as a 20 minute bath treatment, absorption by the host is considered to be negligible.

#### **Distribution**

Not applicable.

#### **Biotransformation**

The possibility of any biotransformation is small, due to the unlikelihood of absorption occurring, and hydrogen peroxide being broken down by catalase and other enzymes. These may be considered as natural routes of detoxification and would occur very rapidly.

#### **Elimination**

As above, break down of any hydrogen peroxide residual would be enzymic. Excretion of hydrogen peroxide would not occur.

## **5. PHARMACEUTICAL PARTICULARS**

### **5.1 Major incompatibilities**

Keep away from acids, alkalis, reducing agents and metal salts.

### **5.2 Shelf life**

Shelf-life of the veterinary medicinal product as packaged for sale: 12 months.

### **5.3 Special precautions for storage**

Store in closed original container. Store in a well-ventilated place. Keep container tightly closed.

Do not return product to original container. Store in a secure place.

Do not store above 25°C. Protect from direct sunlight. Store away from heat sources.

Do not store containers on rafts at sea.

#### **5.4 Nature and composition of immediate packaging**

Reusable stainless steel ISO-containers of 22, 900 Kg or 26, 000 Kg.  
Not all pack sizes may be marketed.

#### **5.5 Special precautions for the disposal of unused veterinary medicinal product or waste materials derived from the use of such products**

Medicines should not be disposed of via wastewater.

The concentrated veterinary medicinal product should not enter water courses, or confined inlets, as high concentrations of hydrogen peroxide may be dangerous for fish and other aquatic organisms.

Dispose of any unused contents and container to an approved waste disposal plant. Use take-back schemes for the disposal of any unused veterinary medicinal product or waste materials derived thereof in accordance with local requirements and with any national collection systems applicable to the veterinary medicinal product concerned.

### **6. NAME OF THE MARKETING AUTHORISATION HOLDER**

Solvay Chemicals International S.A.

### **7. MARKETING AUTHORISATION NUMBER**

Vm 31011/5000

### **8. DATE OF FIRST AUTHORISATION**

19 December 2012

### **9. DATE OF THE LAST REVISION OF THE SUMMARY OF THE PRODUCT CHARACTERISTICS**

May 2026

### **10. CLASSIFICATION OF VETERINARY MEDICINAL PRODUCT**

Veterinary medicinal product subject to prescription.

Find more product information by searching for the 'Product Information Database' on [www.gov.uk](http://www.gov.uk).

*Gavin Hall*

Approved 16 May 2026