Australian Government

Department of Health and Ageing

Therapeutic Goods Administration

Guidelines for the evaluation of sterilants and disinfectants

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TGA Health Safety Regulation

About the Therapeutic Goods Administration (TGA)

- The TGA is a division of the Australian Government Department of Health and Ageing, and is responsible for regulating medicines and medical devices.
- TGA administers the *Therapeutic Goods Act 1989* (the Act), applying a risk management approach designed to ensure therapeutic goods supplied in Australia meet acceptable standards of quality, safety and efficacy (performance), when necessary.
- The work of the TGA is based on applying scientific and clinical expertise to decision-making, to ensure that the benefits to consumers outweigh any risks associated with the use of medicines and medical devices.
- The TGA relies on the public, healthcare professionals and industry to report problems with medicines or medical devices. TGA investigates reports received by it to determine any necessary regulatory action.
- To report a problem with a medicine or medical device, please see the information on the TGA website.

GUIDELINES FOR THE EVALUATION OF STERILANTS AND DISINFECTANTS

These guidelines describe the information to be supplied for the registration or listing of disinfectants and sterilants in the Australian Register of Therapeutic Goods (ARTG). They may also serve as a guide to the sponsors of other products that have to meet Therapeutic Goods Order No 54 - Standard for Disinfectants and Sterilants (TGO 54), but which are exempt from the requirement for registration or listing.

Applications for registration will be subject to evaluation by the Conformity Assessment Branch (CAB) and the Therapeutic Goods Laboratories Branch (TGAL) of the Therapeutic Goods Administration (TGA), in accordance with Section 25 of the Therapeutic Goods Act 1989 (the Act). Applications for listing will be reviewed by CAB in accordance with section 26 of the Act.

Substantial deficiencies in the completeness or rigour of material provided for evaluation will result in the application being rejected or refused and new fees will be payable. Sponsors must, as for all submissions, keep the needs of evaluators in mind and ensure that the material which is submitted is indexed. In the case of listing applications, sponsors should ensure that complete information is provided. Omissions may lead to non acceptance of the application.

1. BASIC REQUIREMENTS

Different levels of information are required to be submitted or held for the different types of disinfectants. These requirements are outlined in this Part. Unless stated otherwise, "with claims" means, "with specific biocidal claims".

1.1 ***Registrable goods*** (sterilants, instrument grade disinfectants, and hospital or household/commercial grade disinfectants with claims)

1.1.1 The following information is to be supplied for registration on the ARTG:

a) a completed *Therapeutic Devices Application*.

b) *For sterilants and instrument grade disinfectants:*
Full information must be provided for all parts of TGO 54 and guidelines. This includes:

- commercial history, regulatory actions and regulatory status
- evidence of GMP compliance of overseas manufacturers/licensing of Australian manufacturers may be required at a later date.
- risk analysis
- formulation and physical/chemical properties including stability
- microbial efficacy
- toxicity/residues
- effects of sterilant or disinfectant on devices
- container/packaging
- labelling

c) *For hospital grade disinfectants with claims or household/commercial disinfectants with claims,*

Full information must be provided for the parts of TGO 54 and guidelines specified below:

- microbial efficacy (as relevant to specific claims)
- formulation (items 5.2 (a)(b)(c) and (d) only)
- container packaging (materials related only)
- labelling

In addition, test certificates to demonstrate compliance with other parts of TGO 54 should be held by the manufacturer or sponsor for examination on request in the event of a problem arising with the product or as part of a routine compliance audit.

1.1.2 Sponsors may indicate in respect of long established and well-characterised disinfectants why data on some areas is considered unnecessary. More substantial data requirements will apply where disinfectants contain new active ingredients. The TGA will seek additional information if clarification or some additional depth is required.

1.1.3 Data that has been prepared for other purposes will be accepted for evaluation where the information requirements are common with those of the TGA. An example of this would include any Material Safety Data Sheet (MSDS), supplied to the National Industrial Chemicals Notification and Assessment Scheme (NICNAS) in respect of some of the toxicity data needed for lower level disinfectants.

1.1.4 Where a standard is referred to in a submission and it is not referenced in these Guidelines, a copy of that standard must be included in the submission provided for evaluation.

1.2 ***Listable goods*** (hospital grade disinfectants without claims)

1.2.1 The following is to be supplied for listing on the ARTG:

a) a completed *Therapeutic Devices Application* form
b) sample labelling

No further data is normally required to be submitted.

Test certificates and any other evidence needed to support the application for listing and to demonstrate compliance with TGO 54 should be held by the manufacturer or sponsor for examination on request in the event of a problem arising with the product or as part of a routine compliance audit. These Guidelines are relevant only in so far as there is a requirement to be met in TGO 54 or in so far as a manufacturer or sponsor chooses to implement a higher standard.

1.3 ***Exempt Goods*** (household/commercial grade disinfectants without claims, sanitisers and sanitary products)

These goods are not required to be registered or listed on the ARTG and, though no application is required, they still have to comply with certain parts of TGO 54. Household/Commercial grade disinfectants, sanitisers and sanitary products are all required to comply with the labelling requirements in Clause 5 of TGO 54.. Household/Commercial grade disinfectants will be expected to comply with performance requirements. These are at Clause 3 (6) in TGO 54. Manufacturers/Sponsors are advised to hold evidence of compliance with the relevant parts of TGO 54. Pre-existing evidence, along with that from any additional compliance testing, will be considered in the event it is necessary to resolve a question about product efficacy.

1.4 ***Excluded Goods*** (sanitisers, cleaners, deodorisers and cleaning wipes, complying with the Section 7 Order)

These goods are not required to comply with either these Guidelines or TGO No. 54 as any product coming within the scope of a Section 7 Order under the Therapeutic Goods Act is formally excluded from all requirements associated with the Therapeutic Goods Act.

1.5 ***Grouping of Goods***

Certain goods may be grouped for the purposes of entry on the ARTG. Details of the grouping criteria are specified in Attachment B.

2. COMMERCIAL HISTORY, REGULATORY ACTIONS AND REGULATORY STATUS

2.1 Describe briefly the history, origins and development of the product, and particularly whether it is a modification of an existing product or a new product. Information to help determine any risks associated with the product and the level of evaluation/information is needed here.

2.2 Date of marketing in each country other than Australia, including date of approval if relevant.

2.3 A summary of local and overseas adverse incidents reported relating to safety or efficacy of the product since the introduction of the product in the market. An explanation should be provided about the effort made to provide data on overseas adverse incidents, and a comment made on the sponsor's view of how rigorous the summary incident report is.

2.4 Details of any regulatory action relating to the product in any country, either completed, current or forthcoming, including certificates or notifications where appropriate, e.g. rejection of marketing approval, recall, hazard alert. Information on these matters is expected to be complete and open. Forthcoming or current regulatory action includes incomplete court hearings, investigations in progress or applications for marketing in progress.

3. RISK ANALYSIS

3.1 Consistent with the general trend towards global regulatory harmonisation for medical devices a detailed risk analysis of the product must be provided in the submission. A useful guide for this can be found in the European standard EN 1441- Medical Devices - Risk Analysis[31]. This document provides guidance on the minimum information required for risk analysis for medical devices.

3.2 The scope of EN 1441[31] states "This standard specifies a procedure to investigate, using available information, the safety of a medical device...by identifying hazards and estimating the risks associated with the device...This standard does not stipulate levels of acceptability, which because they are determined by a multiplicity of factors, cannot by their nature be set down in such a standard...This standard is not intended to cover decision-making process regarding assessment of the indications and contraindications for the use of a particular device".

3.3 Although the standard makes reference to other European standards, appropriate alternatives are provided in it.

3.4 A copy of the MSDS is also required with the submission and may be referenced in the risk analysis if required.

3.5 The intention of this part is to assure the evaluator that the product developer has reflected on those aspects that are unique to the product and the environment in which it is intended to be used. The information provided does not have to be extensive but it should identify the major risks associated with the product and how these have been addressed, to the extent that they can be addressed. For example, a product that utilised a new chemical entity may have increased risks associated with stability and toxicity compared with a modified version of a product supplied over many years.

4. GOOD MANUFACTURING PRACTICE

NOTE: GMP requirements and timeframes are to be clarified following discussion with industry at a later date.

4.1 In the event that arrangements are made for Australian manufacturers of sterilants and instrument grade disinfectants to be licensed, the TGA licence number should be included in the application.

4.2 For overseas manufacturers, evidence of compliance with an approved Code of Good Manufacturing Practice/Quality Assurance Systems certification to EN46001/2 must be provided. For further information on other acceptable forms of evidence refer to the TGA Guideline, *Standard of Overseas Manufacturers* - current edition (available from the TGA Publications Office).

5. FORMULATION AND PHYSICAL/CHEMICAL PROPERTIES

5.1 *For sterilants, instrument grade (high, intermediate and low level) disinfectants,* product information and data supplied for registration must include the following:

a) Brief description of the disinfectant including intended use.

b) Chemical and proprietary name of all active and inactive ingredients. Use Australian Approved Names (AAN) whenever possible, otherwise provide reference to pharmacopoeial monograph, Merck Index or other authorities including any that might specifically relate to disinfectants. This information combined with the other information in an application for entry onto the ARTG is sufficient for the TGA to determine an AAN where one does not already exist. A publication of AAN's is available from the TGA Publications Office.

c) Formulation of stock disinfectant and for any dilutions or activated compounds specified on the labelling.

d) The chemical and physical specifications for the formulation.

e) Stability and dynamics of the formulation during use and storage from a chemical/physical perspective.

f) Details of how formulation and specifications were determined to ensure that the disinfectant is safe and effective when used according to the labelling. Include tests performed to gauge the disinfectant's effectiveness when the following factors are varied:

- temperature
- pH
- disinfectant concentration
- dilution during reuse

The philosophy here is about developing an appreciation of the envelope of performance of the disinfectant/sterilant. It is not about establishing the linear curve of performance for each variable above in combination with the others as this would be impractical.

g) Sources of all ingredients and technical information and specifications provided by the suppliers.

h) Mode of action (if known, with references)

i) Impurities and amounts present or created in the stock or activated solution during storage.

5.2 *For hospital grade or household/commercial grade disinfectants making specific claims* product information and data supplied for registration must include the following:

a) Brief description of the disinfectant including intended use.
b) Chemical and proprietary name of all active and inactive ingredients. Use Australian Approved Names (AAN) whenever possible, otherwise provide reference to pharmacopoeial monograph, Merck Index or other authorities including any that might specifically relate to disinfectants. This information combined with the other information in an application for entry onto the ARTG is sufficient for the TGA to determine an AAN where one does not already exist. A publication of AAN's is available from the TGA Publications Office.
c) Formulation of stock disinfectant and for any dilutions or activated compounds specified on the labelling.
d) The chemical and physical specifications for the formulation.

5.3 Stability data must be submitted to the extent that it is available. Where this information is not complete, the sponsor should supply preliminary stability data and indicate the protocol to be used for monitoring product performance till a final shelf life determination is made. The approach shall be consistent with that detailed in Attachment A to these Guidelines.

5.4 When a disinfectant or sterilant is labelled for reuse and no chemical indicator or solution test strip is available a justification must be included for not providing an indicator. One approach would be to comprehensively characterise the performance capacity of the sterilant/disinfectant by relating its "reuse period", "permissible dilution" and "organic load capacity" data to the impact of instrument load/cleanliness and time for different types of instrument.

6. MICROBIAL EFFICACY

6.1 All tests should be carried out by a GMP licensed or internationally accredited laboratory eg NATA, TGA, FDA, PIC, EPA, NAMAS UK etc. A photocopy of current certification and terms of registration (ie accredited tests) shall be included in the application. Data sourced from non accredited laboratories may be acceptable in the immediate term for virus and higher level tests.

6.2 All tests are to be performed under worst case composition conditions ie formulated at the lower extreme of ingredient specification, stored to expiration and then subjected to the microbial efficacy tests. The term "expiration", means to the end of "reuse period" after the "shelf life" of the product specified for the test concerned. The age of product tested may be quite short if it is for providing the initial full set of test data for evaluation purposes.

The more common approach in developing a worst case product for testing is to use accelerated life testing to predict the final level of actives. These levels (with a safety factor) are then used in the formulation of a sample for efficacy testing.

Data from all tests specified for each grade and level is not required for monitoring of stability. The most stringent test for each particular grade and level can be used to generate stability data. Tests must be carried out at the pH, temperature and time recommended on the label for the use, or each level of use when there is more than one level.

6.3 Test methods must bevalidated. The AOAC tests are notable in this regard as, with the exception of tuberculocidal activity for glutaraldehyde, they are validated. Where reference materials are specified in a test method, they must be used. Validation can be performed by inclusion of a reference substance, such as, benzalkonium chloride for bactericidal tests, phenol for tuberculocidal, bactericidal and fungicidal tests, 2% glutaraldehyde for sporicidal tests and possibly hypochlorite for virucidal tests.

Note: It is preferable that tests which have been validated or refereed at national or international level are used, however, regardless of the situation in this regard, it is necessary for individual laboratories to validate each test method used.

Care should be taken in the selection of reference materials. The chain length of quaternary products needs to be specified and it should be noted that one of the reference substances specified in the original reference for the AOAC Hard Surface Carrier Test is incorrect. Alkyl dimethyl benzyl-benzyl ammonium chloride
should be changed to alkyl dimethyl ethyl-benzyl ammonium chloride.

The substance should be pure chemical grade and should be standardised where possible. Testing laboratories may choose appropriate reference substances, however, TGA will provide details of substances used in the Microbiology Section as the various tests are validated. The Microbiology Section will attempt to import reference substances for use in the AOAC tests and these will be available for purchase along with the referenced test organisms.

If the disinfectant/sterilant is intended for reuse, as in the case of an instrument disinfectant/sterilant, this should also be taken into account. Tests should be performed after the maximum number of reuses in combination with the maximum reuse period recommended by the manufacturer of the disinfectant/sterilant, or at the Minimum Effective Concentration (MEC) recommended by the manufacturer. In the event that chemical test strips are provided to validate product effectiveness during reuse and where no reuse period is nominated on the label, the sponsor shall nominate a period for evaluation purposes.

6.4 **Sterilant and Instrument grade - high level disinfectant**

6.4.1 A sterilant is a chemical agent, other than a gas, which is used to sterilise critical medical devices. A sterilant kills all microorganisms with the result that the sterility assurance level of a microbial survivor is $\leq 10^{-6}$. A high level disinfectant may be regarded as a subcategory of a sterilant, but exposure time is shorter than required for sterilisation. A high level disinfectant kills all microbial pathogens, except large numbers of bacterial endospores when used as recommended by the manufacturer, and is the minimum treatment recommended for the reprocessing of a semi-critical medical device.

6.4.2 For instrument grade disinfectants/sterilants intended for sterilisation of critical medical devices (such as transfer forceps, some dental instruments, arthroscopes, scalpels and other surgical instruments) and for high level disinfection of semi-critical medical devices (such as endoscopes, bronchoscopes and vaginal specula) (refer TGO 54 3.1 & 3.2), details on test protocols and results are required for the following tests:

6.4.3 Sporicidal Tests

a) Evidence must be provided to show that the product kills all spores (for a sterilant) or demonstrates sporicidal activity (for a high level disinfectant).

) Data must be provided to show that a sterilant or high level disinfectant passes a surface carrier test. Organisms must be dried onto a suitable carrier and tests must be carried out at the solution 'in-use' temperature and exposure time recommended on the label or product information.

c) For a sterilant, studies must be provided validating the endpoint for sterilisation. This endpoint analysis should be based on the AOAC Sporicidal Test[1] with data generated from the organism and carrier combination that provides the greatest challenge to the sterilant. The test should involve groups of at least 60 tubes/group, which are sampled before and after the expected sterilisation time. Samples should be taken at appropriate intervals, for example, every 15 minutes for at least one hour prior to sterilisation time

and for one hour after sterilisation time. Some adjustment in sampling times will be needed for products with short sterilisation times. Carriers sampled before the sterilisation time should show some growth and carriers sampled after sterilisation time should show no growth.

This test should be performed separately from the kinetic study involving the development of the survivor curve and calculation of D-value, as described in paragraph 6.4.3(d).

d) For a sterilant, in addition to a carrier test, which must show no growth from any carrier, a survivor curve must be provided showing number of spores present for sampling times: up to sterilisation time; at the claimed sterilisation time; and for a period after this time.

The method should preferably be based on a carrier test but a suspension test with inorganic and organic soil may be used. Hard water, with a minimum hardness of 340ppm (calcium and magnesium) is considered to be a suitable inorganic soil. The minimum specification for organic soil is 5% blood serum, which can be added during carrier preparation or into the disinfectant.
The study should be performed in such a way as to allow D-values of the test organism to be calculated. It should include a graphical representation showing the number of surviving microorganisms on a logarithmic scale. The data should include at least five time points and five replicates per point. It is expected that the graph will be extrapolated to show the time required to achieve a sterility assurance level of 10^{-6}. Inclusion of a 3 to 5 hour sampling point will satisfy the requirements for a high level disinfectant claim as described in paragraph 6.4.3(e). For a carrier inoculated with 10^{6} spores, this would be the time necessary to achieve a 12-log reduction in the population.
Suitable organisms include:

Clostridium sporogenes	ATCC 3584
Bacillus subtilis	ATCC 19659 or NCTC 10073

This D-value study may prove difficult as the survivor curve obtained may not follow first order kinetics and thus cannot be extrapolated unless some statistical treatment is applied. Nevertheless, useful information describing the death rate of the test organism exposed to the disinfectant can be still obtained and it is considered to be an integral part of testing for sterilants and high level disinfectants.

e) For high level instrument disinfectants, a survivor curve with D-value calculation is also required. The FDA only allows a high level disinfectant claim if data has been provided showing that the product can perform as a sterilant. However, the TGA will allow a high level disinfectant claim alone, provided that a 6-log reduction in spore count can be demonstrated in 3 to 5 hours. As with data required for sterilants, at least 5 time points should be included with 5 replicates per point. It is accepted that 3 to 5 hours is longer than the time required for high level disinfection and that 6-log is a large number of spores to kill. The choice of exposure time and inoculum level was based on the work of the Hospital Infection Research Laboratory UK[2] and is designed to avoid difficulties in measuring small log reductions accurately in the shorter space of time required for high level disinfection. The survivor curve need not be extended below zero and the carrier test may be performed at the time when there is a probability of less than one surviving spore. Growth from the carrier test is permitted from a maximum of 2 carriers only.

f) Criteria for assessing the results should be similar to those used for the AOAC Sporicidal Test. The AOAC Sporicidal Test is a suitable test for demonstrating sporicidal claims and activity as a high level instrument grade disinfectant or sterilant, and is the test currently preferred by the TGA.

g) With regard to claims for killing time, the time claimed on the label shall be the longest of the sterilising or killing times determined from the carrier test or calculation of D-value.

Results from tests other than the AOAC Sporicidal Test and from those specified below may be considered suitable provided the methodology is similar. However, the number of carriers used for any sterilant or high-level disinfectant claim using an alternative method should be similar to that specified for the AOAC Sporicidal Test (ie a minimum of 120 carriers tested).

Other tests may be accepted for the determination of survivor curve and D-values.

Other carrier tests that may be suitable are those performed by the Hospital Infection Research Laboratory at Dudley Road Hospital, Birmingham, UK[2].

6.4.4 Tuberculocidal Tests

a) Requirements for a sterilant and high level disinfectant are the same. Any test with reasonable scientifically based, peer reviewed and published methodology may be used.

b) Results from a carrier test must be provided. Quantitative data should also be supplied. If the carrier test is such that it cannot be enumerated, a suspension test may be used to generate quantitative data. This test must be performed using inorganic soil, such as hard water (minimum of 340 ppm calcium and magnesium), and organic soil (minimum of 5% blood serum). Sputum may be used as the organic soil if desired.

c) A variety of organisms may be used, such as:

M. bovis	(BCG)
M. tuberculosis	H37RV
M. terrae	*ATCC* 15755

NOTE: *M. smegmatis* is NOT acceptable as this organism is comparatively easy to kill and its resistance patterns are substantially different from *M. bovis* etc.

d) Tests are to be carried out at solution in-use temperature for time specified on the label.

e) The enumeration test should show a 6-log reduction. The carrier test must show absolute kill. With regard to claims for killing time, the label claim must be based on results from the test with the longest kill time. The enumerated test should use at least four replicates and the average taken for each point.

f) Suitable tuberculocidal tests include: the Ascenzi test[3], the AOAC Test for Tuberculocidal Activity of Disinfectants[4] (NOTE: the presumptive in vitro screening test using *M. smegmatis* is not acceptable, in addition, the confirmative in vitro test using BCG has not been validated for glutaraldehyde products); the Deutsche Gesellschaft für Hygiene und Mikrobiologie (DGHM) Carrier Test for Bactericidal, Tuberculocidal and Fungicidal Activities[5].

As Europe moves towards standardisation of biocidal test methods, the DGHM test may be modified. When a standard European test method (ie CEN) for tuberculocidal activity is finalised, it is likely that this will also be acceptable.

Currently, the suspension test preferred by the TGA is the Ascenzi Suspension Test - the carrier test is still under consideration.
Other references include Van Klingeren (1987)[6], Best (1988)[7], Holton (1994)[8]. Best (1994)[9] details a method used for the analysis of five organisms, one of which is *Mycobacterium bovis*. A method similar to this is used by the Hospital Infection Research Laboratory, Birmingham, UK.

6.4.5 Virucidal Tests

a) Virucidal requirements for a sterilant and a high level disinfectant are the same. Test results should be provided showing efficacy against designated prototype enveloped (lipid) and non-enveloped (non-lipid) viruses.

b) Activity against one of each of the following designated prototype viruses should be demonstrated - Poliovirus type 1, 2 or 3 (small non-enveloped), Adenovirus types 1 to 7 (medium non-enveloped), and Herpes simplex virus type 1 or 2 (enveloped). Animal parvovirus may be used as a substitute for poliovirus if desired, but testing of one of the two is mandatory.

c) The test should be based on a carrier method - modifications of bactericidal carrier methods are acceptable. AOAC Carrier Methods that can be used as a basis are the AOAC Hard Surface Carrier Test[10] and the AOAC Germicidal Spray Products Test[11]. European Committee for Standardisation (CEN) tests or adaptations of these tests may also be acceptable when they are published/finalised. Guidance on carrier test methodology is provided in the ASTM Designation: E 1053 - 85 Standard test method for efficacy of virucidal agents intended for inanimate environmental surfaces[12]

If carrier tests cannot be performed on the minimum three representative viruses, cogent reasons must be provided to justify use of suspension tests. In this situation, suspension tests may be acceptable for Adenovirus and Herpes simplex virus, if carrier test results are provided for Poliovirus. Suspension tests on all three representative viruses will only be accepted after exhaustive attempts and subsequent failure of carrier test methodology.

Guidance on suspension test methodology is provided in the ASTM Designation: E 1052 - 85 Standard test method for efficacy of virucidal agents intended for special applications[12].

d) Viral recovery systems that may be used include tissue culture, embryonated egg and animal inoculation.

e) Tests should be performed at the solution use temperature specified on the label, with organic and inorganic soil. A minimum of 5% foetal/bovine calf serum, or a more stringent soil, should be used as organic soil. Hard water (340ppm calcium and magnesium) is a suitable inorganic soil. Hard water should be used for products that require dilution or reconstitution with water.

f) Tests on the designated prototype viruses should be performed in quadruplicate against a recoverable viral titre of at least 4-log, which must be recovered from the test surface or suspension, and should show complete viral inactivation. If cytotoxicity is apparent, a 3-log reduction must be demonstrated beyond the cytotoxic level, and there should be complete viral inactivation. Cytotoxicity is more easily overcome in suspension tests, for which there should be 4-log reduction with complete viral inactivation. Suitable controls should be employed, which include:

- cytotoxicity controls
- disinfectant neutralisation controls
- quantitative viability control
- cell control
- carrier wash off control

g) If a label claim against HIV, Hepatitis B (HBV), Hepatitis C (HCV) or other specific virus is made, separate data must be provided, in addition to the above.

Suspension tests may be used for additional specific viral claims but the recoverable viral challenge should reflect the titre found in the clinical situation. Complete viral inactivation is preferred, with a minimum 4-log reduction of specific viruses.

For HIV, the method should be based on the principles described above. The use of a surrogate virus for HIV claims is not permitted at this stage. For viruses that cannot be cultured, surrogate viruses may be used.

For HBV, tests with a surrogate organism such as Duck Hepatitis B Virus (DHBV) are acceptable. The electron microscope viral disruption and antigenicity tests are NOT acceptable as they are not reliable indicators of HBV infectivity. A suitable surrogate for HCV may be Bovine Viral Diarrhoeal Virus (BVDV).

Tests for HIV and HCV should be conducted against cell associated virus - a suspension test may be used if necessary. Organic soil for tests against HIV and surrogates for HBV and HCV MUST be a minimum of 50% whole blood.

Other suitable references are Murray (1991)[13], Druce (1995)[14], and Lavelle (1987)[15].

6.4.6 Bactericidal Tests

a) All disinfectants in the instrument disinfectant/sterilant category must be able to pass Option B of the TGA test[16], which is a semi-quantitative suspension test. This test is specified as the "prescribed test" in the TGO 54. Other suspension tests such as the EN Phase 2 Step 1 tests[17] will be acceptable when finalised. These tests will probably replace the Dutch 5-5-5 Suspension Test[18] and the AFNOR test[19] (excluding *M. smegmatis*), which are acceptable alternatives in the meantime. Inorganic and organic soil should be included. In the absence of a specification for soil, a minimum of 5% blood serum and water of minimum hardness 340 ppm should be used. Yeast is to be used for Option B, TGA test, as specified.

b) A surface carrier test is also required. The AOAC Hard Surface Carrier Test[10] for efficacy against bacteria is preferred by the TGA at the present time. However, other bactericidal tests, such as CEN Phase 2 Step 2[17] may be acceptable when finalised.

c) The carrier test should use 60 carriers for each organism tested. If the AOAC Use Dilution Test, repealed in 1995, is chosen, disinfectant or sterilant passes when no growth is recorded in 59 of 60 carriers for each organism.
If the AOAC Hard Surface Carrier Test[10] is chosen, the requirements for pass or fail are as described in the test.

6.4.7 Fungicidal Efficacy

Any test of reasonable scientifically based, peer reviewed and published methodology will be considered. This includes the AOAC Fungicidal Test[20] which can be modified for a carrier test and the AOAC Germicidal Spray Test[11], which can also be modified. The CEN Phases 1 and 2[17] may also be acceptable, when finalised. The AFNOR test[21] for fungicidal activity is also acceptable in the meantime, but it should be noted that methodologies based on carrier tests are preferred.

6.4.8 Simulated In-Use Tests

a) Simulated in-use tests must show performance of disinfectant according to labelling[11] conditions under in use conditions, including the normal cleaning process. This test consists of a simulated laboratory test where representative instruments such as endoscopes and dental instruments are experimentally contaminated, treated (cleaned and disinfected or sterilised) and tested for organism recovery.

b) Simulated tests involve the precise application of a specified inoculum to device surfaces. There should be replicates of a number of different inoculated devices, consisting of different materials and design features and the tests should be repeated at least once.

c) The sample size taken for testing should reflect the number and type of instruments/materials specified on the label. For example, disinfectants for use with dental instruments should be tested against dental instruments. Suitable device "surrogates" (mock devices) may also be tested provided they present a similar challenge to the process and are of comparable material and configuration to the devices they represent.

d) The tests should be performed on devices that are difficult to clean eg. those with small lumens, matt surfaces and hinges.

e) An inorganic and organic challenge should be included. Hard water (340ppm minimum) is a suitable inorganic challenge. The soil used for the organic challenge should be appropriate to the intended use of the device. For example, yeast can be used for vaginal specula, blood or faeces for endoscopes, and blood or sputum for bronchoscopes.

f) The most difficult areas for the disinfectant to penetrate and contact should be inoculated and the inoculated device should be dried before further treatment.

g) The test organism should be the most resistant organism for the claimed level of microbicidal activity eg. a sterilant claim would require a test against a bacterial spore. A suitable organism for a sterilant claim is *Clostridium sporogenes* ATCC 3584. A suitable organism for a high level disinfection claim would be any of the mycobacterial species mentioned in the section on tuberculocidal tests (6.4.4). The concentration of inoculum should be 10^6 CFU/mL at each site. The performance criterion in each case is no growth after the exposure time specified on the label. The recovery method should include brushing and rinsing to ensure that all organisms that are not killed will be detected. Inoculation of the recovery solution must be into enrichment media.

h) If simulated in-use tests are not possible, clinical studies may be acceptable after consultation with the TGA.

6.4.9 Other Biocidal Activities

Test results should be provided in support of any other biocidal and anti-protozoal activities claimed, such as activity against Giardia and Cryptosporidium. There are limited published guidelines available for this kind of test - any sound scientifically based methodology may be considered. However, results must, as a minimum, show efficacy against cysts, and claims must be limited to the organisms used in the tests ie. a general anti-parasitic claim would not be allowed. Where feasible, carrier tests with the addition of organic and inorganic soil as described above are preferred.

6.5 **Instrument Grade-intermediate level disinfectants**

6.5.1 An intermediate level disinfectant kills all microbial pathogens except bacterial endospores, when used as recommended by the manufacturer. It is bactericidal, tuberculocidal, fungicidal (against asexual spores, but not necessarily dried chlamydospores or sexual spores), and virucidal. Intermediate level disinfectants may be used with non-critical medical devices, ie. a device that does not ordinarily contact the human body, or if contact with the human body is made, the device contacts only healthy intact skin. Examples of such devices are wheelchairs and blood pressure cuffs. Information is required on the test protocols and results for the following tests:

6.5.2 Option B of the TGA test (see 6.4.6.a).

6.5.3 A bactericidal carrier test, as required for sterilants and instrument grade-high level disinfectants. This test should include organic soil of a minimum of 5% blood serum and inorganic soil, such as hard water, of minimum hardness 340ppm.

6.5.4 A fungicidal test AOAC or AFNOR/CEN or equivalent (see 6.4.7)

6.5.5 A tuberculocidal carrier test and an enumerated test, which may be a suspension test, as required for instrument grade-high level disinfectants and sterilants (see 6.4.4).

6.5.6 Virucidal test data as required for instrument grade-high level disinfectants and sterilants (see 6.4.5). For additional claims against HIV, HBV, HCV and other specific viruses, data is required as for sterilants and instrument grade-high level disinfectants (see 6.4.5.g).

6.5.7 Other tests for other biocidal activities claimed as required for sterilants and instrument grade high-level disinfectants (see 6.4.9). Where feasible, carrier tests are preferred.

6.6 **Instrument Grade-low level disinfectants**

6.6.1 Low level disinfectants may also be used with non-critical medical devices, but provide a lower level of disinfection than intermediate level disinfectants. Low level disinfectants rapidly kill most vegetative bacteria as well as medium sized lipid containing viruses, but cannot be relied upon to destroy, within a practical period, bacterial endospores, mycobacteria, fungi, or all small nonlipid viruses. Information is required on the test protocols and results for the following tests:

6.6.2 Option B of the TGA test (see 6.4.6.a).

6.6.3 Bactericidal carrier tests as for sterilants and instrument grade high level disinfectants. Organic soil, minimum 5% blood serum and inorganic soil such as hard water 340ppm minimum should be included.

6.6.4 Virucidal test data, with the minimum requirement that the disinfectant must pass a virucidal carrier test with an enveloped/lipid viral pathogen such as Herpes simplex virus. This limited virucidal activity must be specified on the label. Experimental design should be equivalent to that used for other instrument disinfectants ie a carrier test with added soil (see 6.4.5.c & e). A suspension test is not permitted in these circumstances.

6.6.5 If a general virucidal claim, not including blood borne viruses such as HIV, HBV and HCV, is to be specified on the label, the test regime should be as described for sterilants, instrument grade-high level disinfectants and instrument grade-intermediate level disinfectants (see 6.4.5).
Any additional claims against HIV, HBV and HCV or other specific viruses must be substantiated as for sterilants, instrument grade-high level disinfectants and instrument grade-intermediate level disinfectants (see 6.4.5.g)

6.7 **Hospital Grade disinfectant**

6.7.1 Bactericidal efficacy (excluding tuberculocidal) is the only mandatory requirement for a hospital grade disinfectant.

6.7.2 This category MUST pass Option B of the TGA Disinfectant Test ie under dirty conditions (refer to TGO 54), or an equivalent test eg CEN tests (see 6.4.6.a).

If the disinfectant is clearly labelled for use on a precleaned surface, Option A of the TGA Disinfectant Test may be used.

6.7.3 This category MUST pass a bactericidal carrier test. The AOAC Hard Surface Carrier Test[10] (60 carriers per organism) or equivalent method may be used. Soil should be included at a minimum of 5% blood serum and inorganic soil such as hard water at a minimum of 340ppm. If the Use Dilution Test is chosen, the disinfectant passes, when there is no growth in 59 out of 60 carriers per organism. If the Hard Surface Carrier Test is used, the requirements for pass or fail are as described in the test. If Option A of the TGA Test is used for the suspension test (for products for use on precleaned surfaces), organic soil need not be included.

6.7.4 If any specific activities are claimed, the disinfectant must pass suitable suspension tests with added soil for that particular claim. This requirement is to apply regardless of whether Option A or Option B of the TGA test has been used.

6.7.5 For a general virucidal label claim, not including blood borne viruses such as HIV, HBV and HCV, the disinfectant MUST pass tests with added soil (minimum 5% foetal/bovine calf serum), against Poliovirus/Parvovirus, Herpes simplex and Adenovirus (see 6.4.5). These tests may be suspension tests. This requirement is to apply regardless of whether Option A or Option B of the TGA test has been used. Additional label claims of activity against specific viruses, such as HIV, HBV and HCV or other specific viruses must be substantiated by testing in accordance with methodology in 6.4.5.g.

6.7.6 If virucidal testing is limited to lipid/enveloped viruses, such as Herpes simplex virus, a label claim for general virucidal activity will not be permitted. For individual claims of activity against HIV, HBV, HCV or other specific lipid viruses, testing must be in accordance with the methodology specified in 6.4.5.g. The label must reflect the specific viruses used for the limited testing. A claim of general virucidal activity is not permitted in these circumstances.

6.7.7 For a tuberculocidal claim, if a carrier test is used, the results must show 100% kill. If a suspension test is used, the results should show a 6-log reduction. The Ascenzi Suspension test[3] as for instrument disinfectants is suitable.

6.7.8 For a sporicidal claim a suitable suspension test may be accepted (see reference 2).

6.8 **Household/Commercial Grade disinfectant**

A household/commercial grade disinfectant is required to:

6.8.1 Pass Option C of the TGA test (see TGO 54), or

6.8.2 Pass a suitable bactericidal carrier test, such as the AOAC Hard Surface Carrier Test[10] (60 carriers per organism). Organic soil is not necessary but inorganic soil such as hard water of minimum hardness 340ppm should be included.

6.8.3 Pass tests as for hospital grade disinfectants where specific activities are claimed. Inorganic soil should be included (see 6.7.4 - 6.7.8)

6.9 **Surface Sprays**

A surface disinfectant spray is required to:

6.9.1 Pass a bactericidal carrier test such as the AOAC Germicidal Spray Test[11]. Other tests of reasonable scientifically tenable design may be used.

6.9.2 Pass the testspecified in 6.9.1 with added organic and inorganic soil, if intended as a hospital grade surface spray. Organic soil should be a minimum of 5% blood serum and inorganic soil should be hard water (minimum hardness 340ppm). For products intended for use on precleaned surfaces, organic soil need not be included.

6.9.3 Pass the test specified in 6.9.1 with added inorganic soil, if intended as a household grade surface spray.

6.9.4 Pass carrier tests as described in previous clauses, if specific activities are claimed. Soil should be included in these tests where the product is labelled as a hospital grade spray.

7. TOXICITY (References[22,23,24,25,26.27.28.29.30] relate)

7.1 The intention behind the requirement for toxicity information is to ensure that the manufacturer has reflected on toxicity issues and taken reasonable steps to be assured that the product is safe, consistent with the nature of the product. There is no expectation that studies will need to be initiated to assemble the necessary data. While a new study might be needed for a new chemical entity, it is expected that this section can be satisfied with information available through a competent search of the available literature and/or databases. The TGA will accept information generated for other regulatory agencies.

It is understood that most available toxicity data will be in relation to the individual components of a formulation rather than the formulation itself.

7.2 Toxicity Information.

7.2.1 Table 1 - *Information for the assessment of disinfectant and sterilant safety* - outlines the information recommended for all levels or grades of product. Where test protocols are required they should be selected from the reference documents.

7.2.2 The tests given in Table 1 should be used to establish safety of use. If a test is considered unnecessary, the sponsor should justify the omission on the basis of intended use, experience and available knowledge.

7.2.3 For hospital or household/commercial grade disinfectants with claims, information in Table 1 need not be submitted (Refer 1.1.1(c)). It should be available on request if concerns arise over user safety.

7.3 Rinsing Instructions and Residue Levels

7.3.1 Information supplied for the registration of sterilant and instrument grade - high level disinfectants will, in addition to 7.2 above, include the following;

(a) Information supporting that which is summarised on the labelling or provided with the product;

(i) Instructions for rinsing after disinfection.
(ii) Potential toxicity consequences if residues of the disinfectant or sterilant remain after rinsing.
(iii) Treatment for poisoning - antidotes, medical treatment.

(b) An assessment of the acceptable level of residue remaining on the device.

7.3.2 The data to support a statement on remaining residues should compare the *Acceptable Daily Intake* (ADI) derived from the highest amount of the tested residual chemicals that produce a demonstrable *No Observed Adverse Effect Level* (NOEL) in toxicological studies, to the level of remaining residues, to determine if the residual level is acceptable (ref: FDA guidance document[25]).

This can be presented in the product information sheet as follows:
"If the device is rinsed as advised, the residue level remaining on the device will not exceed a level found to be acceptable according to the results of internationally recognised toxicological test data (specify the reference and values involved).

7.3.3 Relevant standards should be considered in preparing a submission and preparing the specification for safety or toxicity related labelling matters. The List of Designated Hazardous Substances[29] and the Approved Criteria for Classifying Hazardous Substances[30] relate.

TABLE 1
INFORMATION FOR THE ASSESSMENT OF DISINFECTANT AND STERILANT SAFETY

TESTS	Sterilant[1] *critical*	INSTRUMENT GRADES			Hospital Grade[2] *surfaces*	Household/ commercial Grade[2] *surfaces*
		High level[1] *semi critical*	Intermediate level[2] *noncritical*	Low level[2] *non critical*		
1 cytotoxicity	X	X				
2 acute oral toxicity	X	X	X	X	X	X
3 inhalation toxicity	X	X	X	X	X	X
4 skin irritation	X	X	X	X	X	X
5 sensitisation	X	X	X	X	X	X
6 eye irritation	X	X	X	X	X	X
7haemocompatibility	X	X				
8 sub-chronic toxicity	X	X				
9 mutagenicity	X	X				
10 carcinogenicity	X	X				
11 environmental toxicity	X	X	X	X	X	X

refer footnotes

[1] Toxicity tests on disinfectants used on critical and semi-critical devices are residue tests and should establish that remaining residue levels are acceptable.

[2] Toxicity tests on disinfectants used on non-critical devices and on surfaces should clearly identify any potential hazards to the user through accidental body contact. These hazards must be clearly identified in the labelling and the product information.

NOTES ON TESTS

1 *Cytotoxicity* -
Information should be provided on tests should be carried out on the eluates of critical or semicritical devices that have been sterilised or disinfected and rinsed according to the recommended protocol. The eluting media and conditions should simulate as closely as possible the in-vivo conditions of use. For example, an instrument or device in contact with living tissue should be eluted into a physiological solution at 37° C for a period no less than the maximum body contact time.

2 *Acute Oral toxicity -*

Basic poisons related safety information is required for all grades of sterilant and disinfectant. Additional information on acute toxicity should be provided for the superscript[2] products in Table 1 unless it can be shown they are unlikely to be used in a way that will cause them to contact the digestive tract. The information should relate to tests conducted at concentrations equivalent to those likely to be encountered in use.

3-6 *Inhalation toxicity, skin irritation, sensitisation and eye irritation -*

Basic poisons related safety information is required for all grades of disinfectant and sterilant. Additional information on residue tests should be provided for the superscript[1] products in Table 1 unless it can be shown that they or their residues are unlikely to come into contact with skin, mucous membrane or eyes.

The basic poisons related safety information is that which would satisfy the Standard for the Uniform Scheduling of Drugs and Poisons[20] (SUSDP) or Material Safety Data Sheet (MSDS) requirements of the Worksafe Australia National Code for the labelling of workplace substances.

7-10 *Haemocompatibility, sub-chronic toxicity, mutagenicity and carcinogenicity -*

Information is required on all the superscript[2] products in Table 1 as residue tests unless it can be shown that they or their residues are unlikely to come into contact with intact patient's tissue.

11 *Environmental toxicity -*

Ecotoxicological information is required for all registrable and listable disinfectants, according to the requirements outlined by any relevant state or federal environmental protection legislation.

The information provided should be reflected in appropriate handling, storage, transport, use, disposal, waste management and neutralisation instructions.
The potential for reuse or recycling should be considered whenever appropriate.

Supplementary studies -

If the known toxicity of an active ingredient or the basic poisons related safety information suggests other forms of toxicity not mentioned above may be a hazard (eg neurotoxicity), then information should also be included, either as information on the residues on treated instruments, or as user safety information.

8. THE EFFECT OF THE STERILANT OR DISINFECTANT ON DEVICES.

This Section (paragraphs 8.1 to 8.4) applies only to *sterilants* and *instrument grade disinfectants*.

8.1 **Material Compatibility**

8.1.1 Information is to show that the disinfectant/sterilant is compatible with the range of materials normally used in the construction of devices.

8.1.2 For products whose components have a history of use in disinfectants an absence of problem reports in relation to the disinfectant/sterilant components will be regarded as substantive evidence that of compatibility. The situation may be established on the basis of experience by the manufacturer and industry generally where that experience is considerable.
Information should normally be obtained through an extensive search of relevant literature and the manufacturer's own knowledge of the sterilant or disinfectant. The applicant should state what steps were taken to determine what information exists. The information that is found should be detailed and its source(s) listed.

Where the components are commonly used but are used in an unusual combination, an assessment of the basic chemistry involved shall not give reason to believe that a corrosion or other materials compatibility problem could emerge. If there is any concern as to the situation then further assurance in line with that in 8.1.3 should be sought and reported.

8.1.3 For products whose formulations use components not widely used in the disinfectant industry, information will be provided to substantiate the probability that the sterilant or disinfectant is compatible with most devices. The substantiation will address the basic chemistry of the disinfectant in respect of a range of metal, glass and plastic materials normally employed in the construction of critical therapeutic devices. The extent of information provided will be consistent with uniqueness of the formulation component(s). Where the active chemical entity(ies) associated with the sterilant or disinfectant have not been used for disinfection, the justification will be substantial and will include physical testing.

8.1.4 Information is to show the nature and severity of any materials compatibility problems reported in the literature or which has been shown through chemical analysis or physical testing.

8.1.5 This information should be reported in the product labels and/or product information literature

8.2 **Specific Device/Material Compatibility Claims.**

8.2.1 Where a claim is made in respect of compatibility additional evidence shall be provided above that required under Clause 8.1 The labelling and product information literature will determine the extent of the data required. The broader the claim for compatibility, the broader the requirement for evidence and/or testing.

8.2.2 If specific claims of compatibility are made for sterilants or instrument grade disinfectants with devices or device materials, then data must be provided to substantiate those specific compatibility claims. The absence of problem reports will not be regarded as sufficient evidence for making a compatibility claim.

The evidence must address the issue of device/material life expectancy when repeatedly treated with the sterilant or disinfectant. Life/cycle expectancy should appear alongside compatibility claims on labels and product information literature.

8.2.3 Any relevant data may be submitted to support the compatibility data requirements. There may be a considerable amount of published data supporting compatibility claims for certain sterilant and disinfectants. Copies of relevant journal articles, or other publications may be presented in lieu of experimental results carried out in-house. The conditions used to establish compatibility in the published articles must be essentially equivalent to those recommended for use.

8.2.4 If labelling for a reusable device indicates compatibility with the sterilant or disinfectant, then testing is not necessary if the claims are restricted to that device and the conditions set out on the device labelling are similar to those set out on the sterilant or disinfectant labelling. The applicant may simply refer to the device manufacturer's recommendations and directions for use.

8.3 **Acceptable Materials/Device Compatibility Testing Protocols.**

8.3.1 Where device or materialcompatibility has to be demonstrated as a consequence of a claim being made, and adequate justification is not able to be provided on the basis of existing reports, the following guidelines are provided:

8.3.2 Device or material compatibility with the sterilant or disinfectant should be demonstrated by in vitro static exposure of the material or device under simulated operating conditions.

8.3.3 The use of operating conditions to demonstrate material compatibility is preferred. However, testing using severe conditions (high temperature, high concentration) can be used to screen large numbers of materials and/or devices. Device or material failure under severe conditions need not exclude them from ultimately being declared "compatible" as many devices have a quite finite life. If a device or material is affected by exposure to the sterilant or disinfectant under severe conditions, follow up studies should be carried out to establish the expected lifetime of the devices/materials when normal operating conditions are used.

8.3.4 A suitable basic materials/device compatibility protocol would be as follows.

a) Replicate samples of the devices and materials to be tested are measured, weighed and their colour and appearance (visual and under a microscope) are noted. Instrument techniques should be used where possible (eg spectrophotometry to measure colour, photography and micrographs to record appearance).

The materials/devices should also be characterised using suitable physical and chemical analysis. Devices should be inspected to determine the effect of degradation on device performance. The analytical techniques used to determine material degradation would vary depending on the material or device. Some suggestions appear in the table below.

Material Type	**Analytical techniques**
Polymers	Physical: Optical and electron microscopy, tensile strength, hardness, flexural rigidity. Chemical: Molecular Weight distribution using GPC or MALDI mass spectroscopy, Infra Red Spectroscopy and other spectroscopy (UV/Vis, NMR, MS).
Metals	Physical: Optical and electron microscopy, tensile strength, flexural rigidity, hardness. Chemical: Surface alloy/metal composition (determined by, for example, Tunnelling Emission Spectroscopy), water contact angle testing.

b) The samples are then immersed in fresh test solution under normal operating conditions for a nominal period of time. The sample is rinsed thoroughly in distilled or filtered water and dried.

c) The treated samples are then checked for any noticeable signs of deterioration or change (eg pitting, corrosion, colour change, dimensional changes, crazing, etc.) The sample is weighed. The sample is then washed using the procedure normally utilised for cleaning the device or material prior to using the disinfectant or sterilant. AS 4187-1994 can serve as a guide in this respect.

d) Steps "b"-"c" are repeated until any deterioration is clearly visible or measurable or until a *large cumulative exposure* has been achieved. In determining what constitutes "large cumulative exposure" the applicant must be guided by the life expectancy of the type of device concerned. For materials where life expectancy has not been able to be determined, 20 cycles is an arguably acceptable minimum. The length of time of exposure may be increased after each successive cycle. For example, the duration of exposure may be 10 minutes on the first cycle, 20 minutes on the second cycle, 30 minutes on the third cycle, and so on. This minimises inspection and handling. However, if this approach is taken, then the duration of the longest experimental cycle should not be 10 times the duration of a normal cycle.

e) A "post-mortem" analysis is carried out on the test materials. The results should be compared to those obtained in Step "a". If the test results are the same considering experimental error, then compatibility will be seen as being demonstrated.

8.4 **Compatibility Report**

8.4.1 Where tests have been undertaken in relation to paragraphs 8.2 to 8.3 above, on device/material compatibility testing, the following will be addressed:

a) Description of the experimental protocol used.
b) Description of the test device material, including its material composition and its life expectancy in number of uses (if known).
c) Test solution and conditions
d) Results of analysis both prior to and after treatment
e) Cumulative exposure time in minutes and cycles
f) Any justification for minimising the extent of the report.

8.4.2 The items (a) through (f) above should also serve as a useful guide in assessing the completeness and usefulness of literature sourced reports on compatibility.

9. CONTAINER

9.1 All disinfectant or sterilant containers shall:

(a) be impervious to and incapable of reacting with its contents
(b) be sufficiently strong to prevent leakage arising from ordinary risks of handling, storage or transport
(c) have sufficient excess capacity to prevent breakage of the container or leakage of the contents if the contents are likely to expand during handling, storage or transport.

It is the manufacturer's or sponsor's responsibility to be assured that compliance with the requirements of TGO 54 and any other relevant standards has been achieved. In the case of sterilants and instrument grade disinfectants where evaluation is required, a formal statement, that all the relevant standards have been considered and met, will be sufficient for evaluation purposes. For the purpose of determining which requirements are relevant, the fact that disinfectants and sterilants are therapeutic goods, will not be regarded per se as sufficient to make a standard, "irrelevant".

NOTE: Other relevant or related standards include the:

(a) SUSDP[28],

(b) Australian Dangerous Goods Code

9.2 A simple characterisation of the container used should be provided for products subject to evaluation. Mention should be made of any unusual features and of those provided to comply with the SUSDP[28] or elsewhere.

10. LABELLING

10.1 Labelling includes, the label affixed to the immediate container, the package insert that will accompany the disinfectant and any other material which provides comprehensive information regarding the indications for use of the disinfectant.

10.2 Labelling must comply with TGO 54 as well as the requirements of the SUSDP[28].

10.3 Labelling should comply with any requirements or recommendations in the documents "List of Designated Hazardous Substances" or "Approved Criteria for Classifying Substances" where this is not contrary to the requirements of the Clause 10.2.

10.4 Other information that is required:

a) approved name(s) of active ingredient(s)

b) quantity/proportions of active ingredients(s), and proportion of available chlorine/bromine/iodine if applicable

c) quantity of disinfectant/sterilant

d) batch number

e) expiry date

f) AUST R number (Registered disinfectants only). There is no requirement for AUST L numbers to be present on labels but sponsors are encouraged to include them.

g) name and address of the sponsor

h) clear and adequate instructions for use, including:

(i) details on how to prepare the disinfectant and use it to ensure specifications are met, including details on: type of diluent, the required strength, and any limitations on quality, contact time, allowable temperature range, minimum effective concentration, and pH range in the case of instrument grade disinfectants and sterilants if significant.

(ii) installation instructions (if applicable)

(iii) limitations of use, including reuse period (if applicable) and managing dilution factor if disinfectant is reused.

(iv) where reuse is provided for, give complete information on how to properly monitor the effectiveness of the reused solution (use of test strips)

(v) specify limitations on storage conditions for stock solutions and activated solution

(vi) provide advice on the extent of data to be provided to justify why pre-cleaning is not necessary.

(vii) identify any list of all detergents or enzyme cleaners for pre-cleaning that are known to be incompatible with instrument grade disinfectants/sterilants.

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30 Approved Criteria for Classifying Hazardous Substances (NOHSC: 1008 - 1994) (AGPS)
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ATTACHMENT A

GUIDELINES FOR STABILITY TESTING OF DISINFECTANTS AND STERILANTS

1. INTRODUCTION

There is a need to strike a balance between having absolute assurance of the long term stability of a product and the timely development and supply of new products. These guidelines are intended to facilitate such a balance by outlining the types of stability testing programme to be adopted by manufactures for ensuring the long term efficacy of products beyond that shown by the data provided to the TGA as part of the evaluation process.

The generation of adequate stability data to support an assigned shelf life for a disinfectant or sterilant is **the responsibility of the sponsor. This is an agreed self regulatory process between TGA and industry**. While it will not be necessary to provide stability data to the TGA beyond that provided initially manufacturers should expect that their stability monitoring program will be audited from time to time. This will be as part of either Good Manufacturing Practice (GMP), when it is implemented, or in response to any concerns that might arise in regard to product performance.

These stability guidelines should be viewed as the minimum requirement and additional data relevant to the specific products may be required by the sponsor to support their shelf life claim.

2. SPECIFIC REQUIREMENTS

2.1 General

The physical stability, chemical stability and microbial efficacy of the product shall be established on the final formulation and in the proposed packaging material. Laboratory batches may be used but they should appropriately reflect the scaled-up production process.

However, a production batch of that product must be subjected to real time stability testing for confirmation. It is necessary for the sponsor to provide initial stability data for the purpose of evaluation but it is not necessary to provide real time data on production batches before launch. Additional stability programmes may be appropriate. For example, where changes have taken place in the manufacturing procedures or the quality of the raw material (see section 2.8).

2.2 **Physical Stability** testing may include:

(a) appearance (eg. emulsion stability, clarity etc.)
(b) odour
(c) pH
(d) immediate container and product compatibility

2.3 **Chemical Stability** testing must comply with the following:

(a) active(s), to be determined by an assay that is valid for the active (eg. HPLC, GC, titration),
(b) active(s) to remain on or above 90% of the label claim at the end of the stated shelf life of the product,

(c) active(s) to be above the minimum level required to pass the appropriate TGA test(s) over the shelf life, and

(d) all chemical testing to be carried out on duplicate samples.

2.4 **Microbial Efficacy**

The final formulation must pass at least one suitably sensitive test according to the appropriate TGO 54 evaluation guidelines for the level/grade of disinfectant or sterilant (see table below) at the final end point with the levels of active(s) at the final predicted final level.

	STERILANT/DISINFECTANT GRADE	APPROPRIATE TEST
1	Sterilant	Sporicidal Test
2	High Level Disinfectant	Sporicidal Test
3	Intermediate Level Disinfectant	Tuberculocidal Test
4	Low Level Disinfectant	Carrier Test (with soil)
5	Hospital Grade Disinfectant	Carrier Test (with or w/o soil as appropriate)
6	Household/ Commercial Grade Disinfectant	TGA Test (Option C), or Carrier Test (with inorganic soil)

2.5 **Testing Frequency**

2.5.1 Accelerated Studies - suggested testing intervals are:
0, 3, 6 and 12 months but other time points eg. 1, 2, or 5 months may also be used and may be necessary for adequate accelerated studies.
The minimum active concentration level from which the shelf life is predicted from accelerated data should be no lower than the minimum active concentration required to pass the appropriate microbial test.

2.5.2 Real Time Studies - Testing at initial and annual intervals should be sufficient. However, it is not necessary to have completed these testing programs before launching the product. Samples from production should undergo real time testing. These samples should be monitored over the shelf life of the product as proposed by the sponsor.

2.6 **Packs**

Stability testing should be carried out on product stored in the proposed packaging material and in the case of real time testing this requirement is mandatory.

2.7 **Prediction of Shelf Life**

2.7.1 Shelf life may be predicted from accelerated data only if the accuracy and reproducibility of the results is adequate to support the extrapolation. All data must be fully defensible.

2.7.2 Extrapolation at various times and temperatures may be determined according to the following general rules

Elevated Temp[a] above storage conditions[b]	Time Period	Possible Shelf Life Prediction
+10 °C	3 months	1 year
+15 °C	3 months	18 months
+10 °C	6 months	2 years
+15 °C	6 months	3 years
+10 °C	9 months	3 years

(a) incubator temperatures shall be monitored and logged
(b) storage conditions for Australia are considered to be the temperatures of 25 - 30 °C. The reference temperature used for stability testing will be that on the label.

Alternative predictive models/rules for extrapolation can be used however after proper scientific validation.

2.7.3 At least four real time data points, including the initial and three months, should be evaluated using acceptable statistical methods to justify the extrapolation.

2.7.4 The predicted value of the final concentration of the disinfectant or sterilant active should not fall below the 90% limit of the label claim at the end of the extrapolated shelf life.

2.7.5 The stability programme should collect real time data from a production batch stored at the recommended storage condition. This should be used to confirm the extrapolated shelf life. The TGA should be advised if the product falls outside specification with appropriate action commensurate with public safety negotiated and agreed.

2.7.6 If there are minor changes to excipients it will be necessary to submit additional data for evaluation of these changes although, where fully evaluated registered goods are involved, this may be restricted to:

(a) confirmation of product stability, and
(b) a single efficacy test as for the final determination of shelf life.

The relative magnitude of any given change will be in relation to a fully evaluated "parent", product previously entered on the ARTG.

2.7.7 No shelf life greater than 5 years is permitted.

2.8 Export Only Products

There shall be no requirement for products intended only for the export market to carry an expiry date if the country of destination does not require expiry dating. If the country of destination requires expiry dating, then extrapolation of stability data to support shelf life should conform with the local regulatory requirement of that country, and not necessarily to the Australian requirement.

ATTACHMENT B

GROUPING OF PRODUCTS

1. INTRODUCTION

Section 16 of the Therapeutic Goods Act specifies the criteria for determining what are separate and distinct therapeutic goods for the purposes of entry on to the Australian Register of Therapeutic Goods. It also determines the number of annual charges that are paid by a sponsor for maintenance of ARTG entries. For the purposes of implementation of Section 16, disinfectants are taken to be separate and distinct according to the criteria outlined below.

2. GROUPING CRITERIA

2.1 Grouping is available for listable disinfectants, and for Hospital Grade and Household/Commercial grade disinfectants with claims only and is not available for Instrument Grade disinfectants or Sterilants.

Registrable Disinfectants

Hospital Grade & Household/Commercial Grade Disinfectants with Claims.

2.2 Disinfectants will comprise a gazetted therapeutic goods grouping if they are eligible to be registered, are not sterilants or instrument grade disinfectants and have the following characteristics in common:

(a) the sponsor; and
(b) the manufacturer; and
(c) the same Australian Device Group classification; and
(d) the same type ('type' as defined for this purpose is either "household/commercial grade with claims" or "hospital grade with claims"); and
(e) the same active ingredient(s) in the formulation;

and they differ from each other only in one or more of the following:

(f) the strength or range of excipient(s); or
(g) the concentration of active ingredient(s); or
(h) the name; or
(i) the directions for use; or
(j) the type of container (disregarding container size)

Listable Disinfectants

2.5 Disinfectants will comprise a gazetted therapeutic goods grouping if they are eligible to be listed and are not sterilants, instrument grade disinfectants, hospital or household/commercial grade disinfectans with claims and have the following characteristics in common:

(a) the sponsor; and
(b) the manufacturer; and
(c) the same Australian Device Group classification; and
(d) the same active ingredient(s) in the formulation;

and they differ from each other only in one or more of the following:

(e) the strength or range of excipient(s); or
(f) the concentrationof active ingredient(s); or
(g) the name; or
(h) the directions for use; or
(i) the type of container (disregarding container size)

3. AUSTRALIAN DEVICE GROUPS

The following classifications will be used to include disinfectants in the Australian Register of Therapeutic Goods (ARTG). Two Australian device group names (ADG's) and codes have been allocated. Only Sterilants currently have an ECRI International Medical Device Code allocated. All applications for registration or listing must include the relevant ADG and ECRI codes where applicable.

Registrable Disinfectants - Disinfectant With Claims Code - DISWC

A substance that is recommended by its manufacturer for application to an inanimate object to kill micro organism, and that is not represented by the manufacturer to be suitable for internal use in humans. This includes disinfectants that are claimed to be sterilants, fungicides, sporicides, tuberculocides or viricide.

***** High Level Disinfectant
***** Hospital Grade Disinfectant
***** Household/Commercial Grade Disinfectant
***** Intermediate Level Disinfectant
***** Low Level Disinfectant
17920 Sterilant
***** Surface Spray Disinfectant

Listable Disinfectants - Disinfectant Without Claims Code - DISINF
A substance that is recommended by its manufacturer for application to an inanimate object to kill micro organisms, and that is not represented by the manufacturer to be suitable for internal use in humans. This includes disinfectants for use on non-critical surfaces.

***** Hospital Grade Disinfectant

ATTACHMENT C

ABBREVIATIONS

AAN	Australian Approved Name
ADI	Acceptable Daily Intake
AFNOR	Association Français de Normalisation
AOAC	American Organisation of Analytical Chemists
ARTG	Australian Register of TherapeuticGoods
AS	Australian Standard
ASTM	American Society for Testing and Materials
ATCC	American Type Culture Collection
BCG	Bacille Calmette-Guérin
BVDV	Bovine Viral Diarrhoeal Virus
CAB	Conformity Assessment Branch
CEN	European Committee for Standardisation
DGHM	Deutsche Gesellschaft für Hygiene und Mikrobiologie
DHBV	Duck Hepatitis B Virus
EPA	Environment Protection Authority (US)
FDA	Food and Drug Administration (US)
GMP	Good Manufacturing Practice
GPC	Gel Permeation Chromatography
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immuno-deficiency Virus
HPLC	High Pressure Liquid Chromatography
MALDI	Matrix Assisted Laser Desorption Ionisation
MEC	Minimum Effective Concentration
MS	Mass Spectroscopy
MSDS	Material Safety Data Sheet
NAMAS	National Medical Accreditation Service (UK)
NATA	National Association of Testing Authorities
NCTC	National Type Culture Collection (UK)
NICNAS	National Industrial Chemicals Notification and Assessment Scheme
NMR	Nuclear Magnetic Resonance
NOHSC	National Occupational Health & Safety Commission
NOEL	No Observed Adverse Effect Level
OECD	Organisation for Economic Co-operation and Development
PIC	Pharmaceutical Inspection Convention
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
TGA test	Therapeutic Goods Act (NSW) test
TGA	Therapeutic Goods Administration (Federal)
TGO 37	Therapeutic Goods Order No 37 - General Requirements for Labels for Therapeutic Devices
TGO 54	Therapeutic Goods Order No 54 - Standard for Disinfectants and Sterilants
UK	United Kingdom
US	United States
UV/Vis	Ultraviolet/Visible

14 March, 1997

Effective 23 June 1997

ARTG STANDARDISED DATA REQUIREMENTS FOR DISINFECTANTS AND STERILANTS

The Australian Register of Therapeutic Goods (ARTG) has been established under Section 17 of the *Therapeutic Goods Therapeutic Goods Act 1989* for compiling information in relation to, and providing for, the evaluation of therapeutic goods for use in humans. Its role is to provide a comprehensive data base of information about all therapeutic goods supplied in Australia or exported from Australia.

To include goods in the ARTG, each sponsor must complete the appropriate form for each distinct product. For disinfectant and sterilant products, this includes provision of the names of active ingredients and excipients in a particular product. These are entered on the ARTG's computer system. For the computer database to fulfil its functions, the data must be entered in an accurate and consistent form. Therefore, the names of active ingredients and excipients must comply with standardised nomenclature. For most substances there is an official or non-proprietary name known as the Approved Name or the Australian Approved Name (AAN) which is to be used when making applications to the TGA for the inclusion of disinfectant and sterilant products in the ARTG.

Therapeutic Goods Order No 54 'Standard for composition, packaging, labelling and performance of disinfectants and sterilants' specifies that the names of active ingredients in the formulation shall be stated on the label of the goods. The AAN is also to be used when the name of the substance is included on the label.

Currently, applications have been accepted from sponsors using non standard terminology. It is proposed that these sponsors will be given a transition period to correct their formulation details. Sponsors will have a specific condition of Registration/Listing included on their ARTG entry requiring that the formulation details be upgraded to AAN standard within one year of the good being entered onto the Register.

This proposed condition states that:

A condition of this Registration/Listing is the formulation information is corrected, to Australian Approved Name Format and submitted to the Australian Register of Therapeutic Goods within 12 months of the good being included on the Register.

To assist applicants/sponsors to meet this special condition, a procedure will be implemented for processing formulation details and for obtaining Australian Approved Names.

Definitions

Formulations consist of active, excipient and possibly some proprietary ingredients (PI). Whilst most applicants will be aware of what constitutes an active or excipient ingredient, the term proprietary ingredient may be new to some sponsors.

Active Ingredient:
Active Ingredient means a therapeutically active component in the final formulation of a therapeutic good.

Excipient Ingredient:
Excipient Ingredient means any component of a finished dosage form other than an active ingredient.

Proprietary Ingredient:
A PI is an excipient element of a formulation that is used as a fragrance, perfume, or colour for a product. Where these formulation sub-elements (not a single ingredient) are confidential from the sponsor, the Proprietary Ingredient Supplier can provide this information directly and confidentially to the TGA. This may be done by the Proprietary Ingredient Supplier completing a 'Notification of a Proprietary Ingredient' form and submitting it directly to the Australian Register of Therapeutic Goods (ARTG) on behalf of the sponsor. Details in this form will be checked and if there are no problems then an ARTG Proprietary Ingredient number will be assigned to the PI and the supplier notified of this PI number.

This PI number can then be used to describe the same PI in subsequent applications to the TGA by the sponsor.

Obtaining Australian Approved Names (AANs)

Formulation details (active and excipient ingredients) must be completed using Australian Approved Name (AAN). These names are included in the 'TGA Approved Terminology for Drugs - July 1995'. One and only one name is used as an ingredient name and is referred to as an Australian Approved Name (AAN).

Where a name is not listed in the 'TGA Approved Terminology for Drugs', a proposal for a new AAN must be submitted to the Australian Register of Therapeutic Goods. The proposal form is attached to this document and can also be found on pages 4 and 5 of the TGA Approved Terminology for Drugs. This form must be accompanied by either a monograph from one of the references listed or manufacturing details in regard to the structure, molecular formula, etc. The minimum data set that can be used for the ingredient will be its description by a unique Chemicals Abstract Number (CAS number). Other acceptable references include Merck Index, Martindale, The Extra Pharmacopoeia, Colour Index (Society of Dyers and Colourists) and the International Cosmetic Ingredient Dictionary.

The document 'TGA Approved Terminology for Drugs' is available free of charge to disinfectant and sterilant sponsors.

The Process When No AAN Is Available

Where use of the AAN terminology is not possible at the time of application, the chemical will be entered with a provisional name classification pending the submission of data required by the special condition.

Dosage forms and route of administration -standardised terminology

Standardised terminology for 'dosage forms' and 'route of administration' are also required to be used when making ARTG application for disinfectants and sterilants. These have been standardised for devices in general and are as follows:

dosage form: Solution, Powder, Spray
route of administration: hard surface disinfectant, instrument grade disinfectant, sterilant

References:

As this process is new to many disinfectant sponsors, we suggest that you take time to read the available literature available from he TGA Publications Office ph: 1800 020 653, fax: 02 6232 8605.
The following are key references:-

- TGA Approved Terminology for Drugs
- Notification of Proprietary Ingredient Forms

- Information on the procedure to lodge proprietary ingredients/Information on Australian Approved Names can be sought from the ARTG on 02 6232 8592.

Confidentiality

The ARTG holds all information as 'commercial-in-confidence'. The *Therapeutic Goods Act* places some of this information in the 'public domain'. Public domain information will be released to all parties in accordance with Regulation 46 of the *Therapeutic Goods Act*. Details of manufacturer, excipient ingredients and quantities and proprietary ingredient numbers will only be released to the sponsor of the good, on request by an 'authorised person'.

Authorised Person

Please note that Sponsors are reminded to maintain the 'authorised person' list for their company held by the ARTG. Unless you remove them from the list, these people remain authorised to amend, delete or submit new applications to the Register. Accordingly, you should seek their removal from the ARTG enterprise records. This can be done in writing under the Owners/Managers/Partners/Authorised person's signature and sent to:

ARTG
Conformity Assessment Branch, TGA
MDP 122
PO Box 100
Woden ACT 2606

ARTG CONTACT LIST

All enquiries regarding transfer of sponsorship/change of sponsor's name
02 6232 8583

Sponsors who require print-outs of their products held on the ARTG and device information
02 6232 8601

Cancellation of products from the ARTG
02 6232 8582

Issues relating to ingredients
02 6232 8592

Questions relating to the legislative aspects of the ARTG
02 6232 8584

Questions relating to procedures within the ARTG
02 6232 8590

3 February 1998

CHANGES TO STERILANTS & DISINFECTANTS INCLUDED IN THE ARTG AS THERAPEUTIC DEVICES - IS NOTIFICATION OR PRIOR APPROVAL REQUIRED?

This document summarises the requirements for sponsors to notify or seek approval of changes to registered sterilants and disinfectants and listed disinfectants or groups of disinfectants included as devices in the Australian Register of Therapeutic Goods. The requirements for products regulated as drugs are outlined in a separate document"Changes to Drug Products - Is notification of prior approval required? available from the TGA Publications Office. Therapeutic goods are registered or listed subject to the condition that changes made to the data on which the decision to register/list was made must be notified to TGA and where necessary the change or variation shall not be implemented until approved by the TGA.

Changes are of two types:

(i) variations to product information in relation to registered sterilants and disinfectants or listed disinfectants. This information relates to the quality, safety and effective use of the goods, including information regarding the usefulness and limitations of the goods;

(ii) additions of products to grouped registrations or listings.
In some instances a notification (N) may lead to a request for further information. All changes must be made in accordance with statutory standards and requirements.

FEES FOR VARIATIONS
All variations requiring notification or approval attract a processing fee and if approval is required for registered devices an evaluation fee is also payable. Reference should be made to the current "Summary of fees & charges for Therapeutic Devices" for details.

EXPLANATION OF CODES USED

REGISTERED STERILANTS AND DISINFECTANTS:	Refers to goods required to be registered. See Schedule 3 of the Therapeutic Goods Regulations.
LISTED DISINFECTANTS	Refers to goods required to be listed.

A	denotes Approval required by the CAB prior to the change being made.
N	denotes Notification required by the relevant unit of the CAB as soon as practicable and not later than three months after implementation of the changes.
R	denotes Notification required directly to the ARTG as soon as practicable and not later than three months after implementation of the change.
*****	denotes the change may require a new registration or listing.
-	denotes No approval or notification is required. Changes may be made without reference to TGA.

All requests for approvals and notifications of changes must be made on the " ***Therapeutic Devices Application***" form and where relevant, be accompanied by the required additional information or data for evaluation/assessment and the appropriate fee. They should be sent via:

The Business Manager
Business Management Unit
Business and Services Branch, TGA
MDP 122
P O Box 100
WODEN ACT 2606

Further enquiries
can be made to the

TGA Publications Office
MDP 122
P O Box 100
WODEN ACT 2606

tel 1 800 020 653
fax 02 6232 8605

Where the information is required only by the ARTG, the information should beprovided in writing to the:

Operations Manager
Australian Register of Therapeutic Goods
[ARTG]
Conformity Assessment Branch, TGA
MDP 122
P O Box 100
WODEN ACT 2606

1. SPONSOR	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change in sponsor name (same sponsor)	R	R
b. Change in sponsor address	R (no fee)	R (no fee)
c. Change in contact person?	R (no fee)	R (no fee)
d. Change in sponsor	R	R

2. FINISHED PRODUCT DETAILS	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change to lower SUSDP poison schedule	R	R
b. Change to higher SUSDP poison schedule	N	N
c. Extension of claims/indications that lead to: (i) changes to the product's classification (ii) no change to product's classification	 A A	 A N
d. Change to product insert information: (i) changes to those sections relating to the product properties, intended use and directions for use in terms of temperature and time. (ii) amendments incorporating other changes and which are consistent with the approved product details	A N	A N
e. Change in physical or chemical properties	A	A
f. Change in shelf life -increase decrease	A N	N -
g. Change in directions for use	A	N
h. Change of proprietary name	A*	R
Change of recommended storage conditions	A	-

3. FORMULATION	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change in amount of active ingredient	A*	R
b. Addition or deletion of active ingredient	A*	A*
c. Change in amount of excipients	A*	R
d. Addition or deletion of excipient	A*	R
e. Change in overages	-	-

4. ACTIVE RAW MATERIALS	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change in supplier only	-	-
b. Change in manufacturer	-	-
c. Change in composition of a proprietary ingredient	A	R

5. EXCIPIENTS	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change of supplier only	-	-
b. Change of composition of a proprietary ingredient	N	R
c. Change of site synthesis	-	-

6. MANUFACTURING PROCESS	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change of principal manufacturer, name only	N	N
b. Change of submanufacturers	N	N
c. Change of site of manufacture:	A*	N*

7. QUALITY CONTROL	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Alteration to TGA accepted test methods: (i) Changes which maintain or improve analytical performance (ii) Other changes	 A -	 - -
b. Swap to another test method	A*	-
c. Narrowing the specification range within existing limits	N	-
d. Other amendments to specification ranges	A	-

8. PACKAGING	Registered Sterilant/ Disinfectant	Listed Disinfectant
a. Change of supplier of container only (same specifications)	-	-
b. Change of container (different material specifications)	A	N (for products covered by SUSDP)
c. Change of container closure	N	-
d. Changes of labelling details (i) Information on the label for product's use/description, claims, indications (ii) Colour of label (iii) Size of print/typeface (iv) Change of manufacturer/sponsor address information etc	 A* R R R	 N R R R

3 February 1998

ADVERTISING GUIDELINES FOR DISINFECTANTS AND STERILANTS

THIS DOCUMENT PROVIDES GUIDANCE TO SPONSORS OF DISINFECTANTS AND STERILANTS IN RELATION TO THE ADVERTISING OF THESE PRODUCTS TO THE GENERAL PUBLIC, IN TERMS OF THE *THERAPEUTIC GOODS ACT 1989* AND REGULATIONS.

FOLLOWING CONSULTATION WITH RELEVANT STAKEHOLDERS, IT IS INTENDED TO INCORPORATE THESE GUIDELINES AS AN APPENDIX TO THE "NSCTG ADVERTISING GUIDELINES" DOCUMENT, FOLLOWING CONSIDERATION AND ENDORSEMENT BY THE COMMITTEE AT ITS NEXT MEETING (SCHEDULED FOR 30-31 OCTOBER 1997).

Introduction

Disinfectants and Sterilants are regulated as *therapeutic goods* which are subject to the requirements of the *Therapeutic Goods Act 1989* and Regulations, including those requirements relating to import, export, manufacture, supply, advertising, labelling and compliance with standards.

The Therapeutic Goods Advertising Code (TGAC) forms the basis of determining the acceptability of advertisements directed to the general public. TGAC Clause 4 prohibits direct or implied references to a wide range of serious conditions which are not amenable to self diagnosis or treatment - 'prohibited representations' in terms of the Regulations. Of particular interest to disinfectants and sterilants are the 'prohibited representations' relating to immune system diseases, ailments or defects (including HIV/AIDS); diphtheria; the herpes virus; influenza; tuberculosis; whooping cough and a general prohibition relating to 'infectious diseases'.

In addition, TGAC Clause 7 prohibits general claims (amongst others) that products are safe, infallible, magical, guaranteed, effective in all cases, possess unique or absolute properties, etc.

Advertisements directed exclusively towards health professionals are not subject to the requirements imposed by the Regulations and TGAC (as elaborated upon under Therapeutic Goods Regulation No.4). In other words, advertisements to health professionals may contain 'prohibited representations' [subject to the provisions of s.22(5) of the *Therapeutic Goods Act 1989*].

An overriding provision which governs <u>all</u> advertisements for therapeutic goods is s.22(5) of the *Therapeutic Goods Act 1989* which states, "a person, being the sponsor of therapeutic goods that are included in the Register, must not, by any means, intentionally or recklessly advertise the goods for an indication other than those accepted in relation to the inclusion of the goods in the Register".

Some Definitions (from the *Therapeutic Goods Act 1989* and Regulations)

"advertisement", in relation to therapeutic goods, includes any statement, pictorial representation or design, however made, that is intended, whether directly or indirectly, to promote the use or supply of the goods.

"disinfectant", means a substance:

(a) that is recommended by its manufacturer for application to an inanimate object to kill micro organisms; and
(b) that is not represented by the manufacturer to be suitable for internal use.

"sterilant", means a chemical agent that kills microbes with the result that the sterility assurance level of a microbial survivor is less than 10^{-6}.

"therapeutic goods", means goods:

(a) that are represented in any way to be, or that are, whether because of the way in which the goods are presented or for any other reason, likely to be taken to be:
(i) for therapeutic use; or
(ii) for use as an ingredient or component in the manufacture of therapeutic goods; or
(iii) for use as a container or part of a container for goods of the kind referred to in subparagraph (i) or (ii); or
(b) included in a class of goods the sole or principal use of which is, or ordinarily is, a therapeutic use or a use of a kind referred to in subparagraph (a) (ii) or (iii);
and includes goods declared to be therapeutic goods under an order in force under section 7, but does not include:
(c) goods declared not to be therapeutic goods under an order in force under section 7; or
(d) goods in respect of which such an order is in force, being an order that declares the goods not to be therapeutic goods when used, advertised or presented for supply in the way specified in the order where the goods are used, advertised, or presented for supply in that way; or
(e) foods.

"therapeutic use", means use in or in connection with:

(a) preventing, diagnosing, curing or alleviating a disease, ailment, defect or injury in persons or animals; or
(b) influencing, inhibiting or modifying a physiological process in persons or animals; or
(c) testing the susceptibility of persons or animals to a disease or ailment; or
(d) influencing, controlling or preventing conception in persons; or
(e) testing for pregnancy in persons; or
(f) the replacement or modification of parts of the anatomy in persons or animals.

Guidelines

In determining the acceptability of claims for the various types of disinfectants and sterilants, the following table should be used in conjunction with the table entitled "Acceptable Common Names", as detailed in Therapeutic Goods Order No.54 - "Standard for composition, packaging, labelling and performance of disinfectants and sterilants".

The table provides guidance in terms of the type of claims that are permissible for the various product types currently available on the Australian market (ie. sterilant, hospital grade, household/commercial grade, instrument grade, sanitiser, deodoriser, hand cleaner and cleaning wipes) and also indicates the category of goods that a particular product will fall into when it makes a particular type of claim ie. either registrable, listable, exempt or excluded.

Such distinctions are necessary since, in many cases, it will be the claim or product name alone that will determine whether a particular product requires inclusion on the Australian Register of Therapeutic Goods or whether that same product may be marketed as an exempt or excluded good. The type of claim being made will also be a determining factor as to whether a product is registrable or whether it can remain in the listable category.

It must be noted that a claim can be made by virtue of either the product's accepted name, indications or its general presentation. To facilitate some of the claims contained in the following table (in public advertising), appropriate amendments to the TGAC will be sought.

The purpose of these amendments will be to ensure that claims relating to an effect against organisms which have potential to cause serious illnesses (eg. tuberculosis) are only permitted for registered goods that have been fully evaluated for that specific purpose; along with permitting unevaluated disinfectants to make claims in relation to activity against organisms such as *S.aureus, E.coli*, etc.

The specificity of claims are also a determining factor as to whether a product will be registrable or listable. The following table also provide a distinction between specific and non-specific claims. For the purposes of these Guidelines, these terms are defined as follows:

"specific claim", is one which covers virucidal, sporicidal, tuberculocidal, fungicidal or other biocidal activity. Except where claims of activity against fungi (yeast and mould) for excluded products are concerned, such claims lift a product into the registrable category of goods.

"non-specific claim", is a claim which includes general antibacterial action or activity against bacteria covered by the battery of test organisms included in the specified test, or bacteria of the same family. Claims for bacteria other than these are allowable and do not cause the product to become registrable, but the specific organism against which activity is claimed must be included as an extra organism in the test battery eg. *E. coli O157, Salmonella spp, Streptococcus spp*, etc.

EXAMPLES FOR CLASSIFICATION OF GOODS

1. A hand cleaner whose specified use is only as a hand cleaner/protective emollient and is presented for cosmetic use only IS NOT REGULATED AS A THERAPEUTIC GOOD.

2. A sanitiser cannot make virucidal, sporicidal, tuberculocidal or bactericidal claims even by implication , unless it is classified as a disinfectant and relabelled using a Common Names (as outlined in the table of "*Acceptable Common Names*" refer to page 23 of TGO 54). The product in this case would be reclassified as a disinfectant with specific claims and would be registrable.

3. A sanitiser that is excluded cannot make claims that it is a disinfectant even by implication unless it is relabelled as either a Household or Commercial grade disinfectant. The product would hence be reclassified as an Exempt good.

4. A deodoriser can only make claims that it deodorises air. Claims cannot be made that the deodoriser is bactericidal, fungicidal, sporicidal, tuberculocidal or viricidal or that the product is a disinfectant. If such claims are made the product is to be relabelled as a disinfectant using the Common Names (as specified in the table of *"Acceptable Common Names"* refer to page 23 of TGO 54). Depending on the claims, the product could be reclassified as:

Resultant classification	**Common Name**	**Claim**
Exempt	Household or Commercial grade disinfectant	kills bacterial growth, or any claim against non spore forming bacteria provided claims are supported by relevant performance testing
Listable	Hospital grade disinfectant	as above claims
Registrable	Household or Commercial grade disinfectant or Hospital grade disinfectant	fungicidal, sporicidal, tuberculocidal or viricidal

5. A Hospital grade disinfectant cannot have the following claim: 'passes TGA test option C'. As this test is the recommended test for Household or Commercial grade disinfectants the product would require reclassification to reflect the type of performance testing.

6. A household cleaner, classified as Excluded is prohibited from claiming 'germicidal' activity. Such a claim would raise the cleaner to an Exempt Household grade disinfectant.

7. An Exempt Household grade disinfectant is prohibited from making 'anti fungal' or 'anti viral' claims. Claims of this nature raise the product to Registrable, Household grade disinfectant.

3 February 1998

Therapeutic Goods (Excluded Goods) Order No 1 of 1997
SUBSECTION 7 (1) ORDER

Item	Goods	Specified Use or Labelling
1	Sanitisers, detergents, laundry soaps and other cleaning preparations, the primary purpose of which is household and commercial cleaning.	Labelled so that: (a) benefits claimed are limited to: (i) an improvement in hygiene; or (ii) the removal or reduction of non-specific micro-organisms to a sanitary level; or (iii) antibacterial action; or (iv) bacteriostatic action; and (b) no claims are made that the product is: (i) a disinfectant; or (ii) a sterilant; or (iii) bactericidal, sporicidal, tuberculocidal or virucidal; or (iv) fungicidal unless the claims are limited to the use of the product in the food and beverage industries, or in the destruction of mould
2	Deodorisers	Labelled so that the benefits claimed are limited to deodorising air and no claims are made that the goods are: (a) bactericidal, fungicidal, sporicidal, tuberculocidal or virucidal; or (b) that the product is a disinfectant for inanimate surfaces.
3	Cleaning wipes claiming an antibacterial action	Labelled so that: (a) the benefits claimed are limited to the killing or reduction of non specific micro-organisms within the wipe; and (b) no claims are made relating to the disinfection of inanimate surfaces coming into contact with the wipe.

Therapeutic Goods Administration

PO Box 100 Woden ACT 2606 Australia
Email: info@tga.gov.au Phone: 1800 020 653 Fax: 02 6232 8605
www.tga.gov.au