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## Guide to occupational health and general animal detection systems care

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## **Foreword**

International standards for humanitarian demining programmes were first proposed by working groups at an international technical conference in Denmark, in July 1996. Criteria were prescribed for all aspects of demining, standards were recommended and a new universal definition of “clearance” was agreed. In late 1996, the principles proposed in Denmark were developed by a UN-led working group and the International Standards for Humanitarian Mine Clearance Operations were developed. A first edition was issued by the UN Mine Action Service (UNMAS) in March 1997.

The scope of these original standards has since been expanded to include the other components of mine action and to reflect changes to operational procedures, practices and norms. The standards were re-developed and renamed as International Mine Action Standards (IMAS) with the first edition produced in October 2001.

The United Nations has a general responsibility for enabling and encouraging the effective management of mine action programmes, including the development and maintenance of standards. UNMAS, therefore, is the office within the United Nations responsible for the development and maintenance of IMAS. IMAS are produced with the assistance of the Geneva International Centre for Humanitarian Demining.

The work of preparing, reviewing and revising IMAS is conducted by technical committees, with the support of international, governmental and non-governmental organizations. The latest version of each standard, together with information on the work of the technical committees, can be found at [www.mineactionstandards.org](http://www.mineactionstandards.org). Individual IMAS are reviewed at least every five years to reflect developing mine action norms and practices and to incorporate changes to international regulations and requirements.

## Introduction

This standard outlines the good practices for the occupational health and general care of animals which are critical in the detection of mines and explosive ordnance. This document acknowledges the substantial investment made by mine action (MA) organizations in animal detection systems (ADS), highlighting their significance alongside other explosive ordnance clearance assets.

Proper care and welfare of ADS are not just ethical imperatives but also key to maintaining their effectiveness and efficiency in operational settings. This standard emphasizes the need for comprehensive care, including appropriate nutrition, regular health checks and humane treatment, to ensure that these animals can perform their demanding roles effectively.

This standard draws parallels between animals and human athletes, underscoring the necessity of a holistic approach to their well-being. Just as athletes require a balanced diet, mental health support, consistent fitness training and preventive healthcare to perform at their best, animals need similar attention to excel in the physically and mentally challenging task of explosive ordnance detection.

A well-nourished and cared-for animal is more resistant to diseases, exhibits greater endurance and focus during training and operations, and consequently enhances safety and cost-effectiveness in the field. This standard points out that neglecting these aspects can lead to reduced performance, questioning the reliability and credibility of the animal.

While this standard provides a global framework for ADS care and health, it is designed to underpin, not replace, national standards and standard operational procedures (SOPs). Recognizing the diverse environmental conditions under which ADS operate, this standard stresses the importance of adapting its principles to local operational contexts. It places the onus on national authorities and demining organizations to integrate these guidelines into their national standards and SOPs, ensuring that the unique needs and challenges of their specific environments are adequately addressed. This adaptability ensures that the guidance provided by this standard remains relevant and effective across various operational landscapes.

# Guide to occupational health and general animal detection systems care

## 1 Scope

This standard sets out comprehensive guidelines for occupational health and general animal detection systems (ADS) care. It encompasses the fundamental principles of humane treatment of animals, their health and overall physical and mental well-being. It includes:

- healthcare and continuous monitoring;
- essential medical requirements;
- dietary considerations;
- exercise routines;
- kennel standards;
- transportation procedures;
- management of epidemic diseases;
- addressing ADS parasites; and
- retirement, euthanasia and detection / prevention of abuse considerations.

This standard provides a structured framework for ensuring the optimal care, safety and effectiveness of ADS involved in mine action activities, and their well-being and humane treatment once their active service life is over.

## 2 Normative references

A list of normative references is given in Annex A. Normative references are important documents to which reference is made in this standard and which form part of the provisions of this standard.

## 3 Terms and definitions

A complete glossary of all the terms, definitions and abbreviations used in the International Mine Action Standards (IMAS) series is given in IMAS 04.10.

In the IMAS series, the words “shall”, “should” and “may” are used to indicate the intended degree of compliance:

- “shall” is used to indicate requirements, methods or specifications that are to be applied in order to conform to the standard;
- “should” is used to indicate preferred requirements, methods or specifications; and
- “may” is used to indicate a possible method or course of action.

### 3.1

#### **animal detection system**

#### **ADS**

combination of animals, handlers, supervisors, managers, equipment, facilities, policies, procedures and other associated functions that interact to provide a tool intended to detect vapour from explosive ordnance

Note 1 to entry: Vapour may include vapour from the case material and other substances as well as from explosives.

### 3.2

#### **animal detection system organization**

##### **ADS organization**

organization (government, NGO or commercial entity) responsible for implementing mine action projects or tasks with the use of ADS

### 3.3

#### **animal detection system unit**

##### **ADS unit**

animal trained to detect vapour from explosive ordnance and its handler

Note 1 to entry: ADS units are directed and monitored by a team/site management.

Note 2 to entry: Specially trained rats and dogs are currently the only animals accepted as performing explosive ordnance vapour detecting tasks to national standards in conjunction with human handlers.

### 3.4

#### **epidemic disease**

disease which spreads rapidly and extensively by infection and affects many individuals in an area or a population at the same time

Note 1 to entry: In contrast to an endemic disease, which is prevalent in or peculiar to a particular locality, region or population.

### 3.5

#### **explosive ordnance**

##### **EO**

mine action's response to the following munitions:

- mines;
- cluster munitions;
- unexploded ordnance;
- abandoned ordnance;
- booby traps;
- other devices (as defined by CCW APII); and
- improvised explosive devices

### 3.6

#### **kennel assistant**

individual responsible for the upkeep and management of the living environments of working animals, ensuring their welfare, well-being, comfort and safety

### 3.7

#### **nutrition**

<mine action> process of providing or obtaining the food necessary for health and growth

### 3.8

#### **quarantine**

enforced isolation or restriction of free movement imposed to prevent the spread of a contagious disease

## **4 Healthcare**

### **4.1 General healthcare**

Good physical and mental health is a prerequisite for all working animals. Strength, resistance to disease, fitness, liveliness, endurance, motivation and learning ability are all essential to the maintenance of an effective animal detection system (ADS). These requirements rely on systematic and comprehensive healthcare coupled with careful physical training and humane handling, focused on positive reinforcement of desired behaviours.



Neglecting these requirements can result in poor performance, frequent illness and even permanent disability or death. For example, poorly established vaccination schemes can result in the spread of epidemic diseases, disability or death. Being continuously exposed to stress can affect the immune system. ADS organizations shall prioritize and exhaust all practicable efforts to ensure the care and welfare of animals.

## **4.2 Initial screening**

There is a risk that illnesses and attributes, including genetically inherited ones, prevent an animal from developing appropriate skills. An initial screening test when selecting animals for training should involve a medical examination for general fitness and an assessment of the possession of desired behavioural and learning qualities.

## **4.3 Principal health requirements**

A comprehensive approach to healthcare that encompasses both physical and mental aspects, ensures that animals are well-prepared to undertake the physically demanding and psychologically challenging tasks associated with MA. The principal health requirements shall include the provision of:

- sufficient nutrient-rich food, specific to hard physical work;
- vaccinations against common diseases;
- periodic grooming, nail care, ears, teeth and health checks and treatment;
- skincare checks for and cancers in rats;
- physical and mental exercise;
- a high standard of general hygiene;
- adequate kennel or shelter facilities;
- qualified veterinary support; and
- adequate transportation facilities and procedures.

## **4.4 Exercise**

Animals shall be exercised regularly to remain in top physical and mental condition. Daily exercise for animals shall be documented and monitored. The type and duration of exercise shall be adjusted to the animal species and the individual needs of animals. Exercise routines should be varied to stimulate the animal and prevent boredom. Adequate exercise programmes may include playing, social interaction, walking, obstacle courses, swimming and treadmill activities.

Animals kept in temporary or small accommodation facilities or undergoing long periods of inactivity such as during off-season, shall be exercised more frequently and given more mental stimulation than during active working periods, to prevent boredom, which causes behavioural and physical problems.

# **5 Health control**

## **5.1 General health control**

Animals often continue working despite health issues. Personnel involved in the handling of animals shall identify potential signs of illness or injury. Healthcare shall include regular grooming and daily health checks of the animal for signs of parasites, sickness or injury. These observations shall be diligently recorded daily in the animal's medical log.

## 5.2 Medical logs

Each animal shall have a detailed medical log. This record shall encompass:

- vaccination history;
- preventative treatments;
- deworming schedules;
- records of any illnesses, injuries and treatments received; and
- daily health checks.

Annex B outlines key healthcare elements that shall be documented.

Vaccinations shall be recorded and kept up to date. In some jurisdictions, specific national regulations regarding vaccinations and the maintenance of medical health records apply. In such cases, these national guidelines shall be followed by all ADS organizations.

## 5.3 Daily health checks

Animals shall be examined by ADS handlers before, during and after each working day. The ADS team leader shall be informed immediately if any symptoms or abnormalities are discovered. The daily health check results shall be recorded in the medical log.

Serious medical problems or instances where an animal fails to respond to treatment shall be reported to a veterinarian for further assessment. Recommended daily health check points are included in Annex B.

When animals fail a health check, they shall be removed from working duties until they are back to full health.

## 5.4 Comprehensive health checks

A more comprehensive examination of animals should be done on a quarterly basis. The examination shall be done by a qualified veterinarian. In cases where a veterinarian is not available, the examination shall be done by a suitably qualified ADS team leader or instructor. The examination results shall be recorded in the animal's medical log. Recommended periodical health check points are included in Annex B.

## 5.5 ADS training requirements

All ADS personnel with direct responsibility for providing care for animals (ADS qualified personnel and kennel assistants) shall have basic training in care and maintenance of animals. Refer to T&EP 07.31/02 competencies required for ADS handlers, team leaders and instructors, for further guidance.

## 5.6 ADS medical support

ADS organizations shall prioritize the healthcare of animals, ensuring that they receive every possible measure of medical care. At all times when animals are working:

- 1) there shall be a suitably qualified person on site to provide emergency medical treatment for animals;
- 2) suitable medical equipment shall be available on working sites for emergency treatments; and
- 3) an ADS emergency evacuation plan shall be established. This plan shall include specific procedures for safely retrieving animals from hazardous areas, ensuring their care both on site and during transportation. The plan shall outline the quickest and safest routes to transport the animals to appropriate veterinary facilities for support.

When animals are not working (for example, during non-working hours or on weekends/holidays):

- 4) there shall be a suitably qualified person available on immediate call 24/7 to provide medical treatment for the animal; and
- 5) a plan shall be in place for the transfer of sick or injured animals to a suitable veterinary facility.

## **6 Dietary requirements**

### **6.1 General dietary requirements**

ADS organizations shall ensure that all animals are provided with dietary requirements specific to their needs. A comprehensive diet should contain the recommended proportion of nutrients, minerals and vitamins specific to each animal.

A daily record shall be maintained and monitored detailing the feeding regime for each animal.

### **6.2 Food requirements**

Organizations with ADS assets shall provide the necessary quantity of food to sustain optimal health and energy levels in working animals. A monthly record shall be maintained and monitored, detailing the weight of each animal.

Significant weight fluctuations or changes in stool composition should prompt adjustments in the feeding regime to ensure the animal's health and performance. Where significant changes in weight are observed, the animal should be examined by a qualified veterinarian to identify the cause of weight loss.

Adequate facilities shall be provided for the hygienic and safe storage of food with climatic control. A quality management process shall be established, including the testing of stored food for aflatoxin.

### **6.3 Water requirements**

Animals shall be provided with regular access to fresh water of the same quality as is available to humans. Animals suffering illnesses such as diarrhea or living and operating in a high-temperature environment, shall be provided with additional water.

Daily water consumption shall be monitored. Any obvious deviations from normal water consumption should be investigated.

## **7 Kennel requirements**

### **7.1 Basic kennel requirements**

To satisfy the basic housing needs of animals, it is essential to provide a kennel that maintains cleanliness, supports the health and well-being of animals, and minimizes their stress. The following are specific requirements for such basic kennel facilities.

- Adequate space. The kennel shall offer sufficient room for animals to move freely and engage in natural behaviours, ensuring their physical and mental well-being.
- Appropriate environmental conditions. The kennel shall closely mimic natural conditions with regulated temperature, humidity, lighting and measures to limit unexpected noise. Natural light should be used as much as possible to maintain a natural environment.
- Cleanliness and hygiene. Kennels shall be regularly and thoroughly cleaned to prevent disease. This includes routine sanitation of all areas, including living spaces, exercise and feeding areas.

- Proper ventilation. Kennels shall have good air circulation to prevent respiratory issues and maintain high-quality air, which is essential for the animals' overall health.
- Enrichment features. Kennels shall include various features for mental stimulation and physical exercise, along with appropriate areas for rest and relief.
- Access to food and water. Animals shall have constant access to fresh water, and the provision of food that meets their specific nutritional needs.
- Observation and monitoring. The kennel shall be equipped with adequate lighting to enable observation at any time and ensure that animals' needs are consistently met.
- Socialization. Kennels shall facilitate daily interaction with humans and/or other animals to fulfil their social needs.
- Security and safety. Housing design shall protect animals from external threats, such as predators and adverse environmental conditions, ensuring a secure and safe environment.
- Recorded cleaning regime. A documented cleaning regime shall be implemented.

## **7.2 Permanent kennel facilities**

The kennel is primarily a place for an animal to rest or sleep. Only authorized personnel such as handlers, instructors or kennel assistants should be allowed to enter a kennel without prior authorization.

Procedures shall be established in the event of a fire or other emergency, and ADS care staff shall be trained in these procedures.

Recommendations for permanent kennel facilities are included in Annex C.

## **7.3 Temporary kennel facilities**

Temporary kennels are often established when undertaking operations in remote areas. Where possible, these should satisfy all the basic requirements included in subclause 7.1.

Temporary kennels may be of any construction material. In some cases, transport cages may be used as short-term kenneling. Animals shall be removed from temporary kennels every two hours and allowed to exercise. When operations require the use of ADS for periods exceeding two weeks, their temporary kennels should be upgraded to permanent kennel facilities. In establishing temporary kennel facilities, the following requirements apply.

- The kennel shall be clean, warm, dry and well ventilated. In cold climates, it can be difficult to keep a kennel both warm and well-ventilated so a compromise may be reached.
- The sleeping area shall be raised to about 10 cm above the ground on blocks or supports.
- Measures shall be taken to protect animals from pests and parasites.
- The kennel shall be relatively free from distractions or disturbance that can cause animals to become stressed.
- Rats shall be caged separately.
- No more than two dogs should be housed in the same kennel, and dogs shall only be housed together if they are compatible.
- Animals shall always have access to clean drinking water. There shall also be access to clean water for washing animals and cleaning kennels.

- A temporary quarantine facility shall be established in the event of illness.
- Consideration shall be given to the risk of fire.

## **7.4 Quarantine requirements**

Animals are placed in quarantine to prevent the transmission of diseases or parasites. A period of quarantine shall be required for newly arrived animals that need initial screening before joining other animals in a kennel. Where applicable, any national quarantine requirements shall be followed, both when bringing young animals into a country for training and operations, and when taking trained animal teams to work in another country. This process is costly and time-consuming and the planning for such events should be included in the early stages.

The following requirements apply for the establishment or management of quarantine areas.

- The quarantine site should be a minimum distance of 30 m from other animal kennels.
- Quarantine kennels shall have separate water access, drainage and sewage collection.
- Quarantine kennels shall be constructed in a manner that prevents other animals and birds from entering the kennel as these can transmit bacteria, viruses and parasites to other animals.
- Waste products from medical treatment shall be disposed of to prevent disease transmission. When epidemic diseases are being treated, medical waste products shall be burned.
- Separate exercise areas for quarantined animals and other animals shall be established to prevent disease transmission through environmental contact.
- Personnel in contact with other animals or normal kennels shall take measures to prevent the transmission of disease or parasites, such as disinfecting or changing clothes, gloves and boots.
- Clothing and equipment used with quarantined animals or in quarantine kennels shall be stored separately from other clothes and equipment.

## **8 Transportation of animals**

### **8.1 General transport of animals**

The following procedures apply in the transportation of animals.

- During transportation, the animal shall be accompanied by its handler, or another person trusted by the animal. Animals shall not be left unattended unnecessarily during transportation.
- Animals shall always be transported in portable cages or in specially designed animal transport vehicles. When an animal is transported inside a vehicle, the windows to the animal compartment shall be covered with reflective film or insulation material to prevent overheating.
- Dogs shall always be assisted into and out of vehicles. For loading and unloading into low-tailboard vehicles, the chest and rear for animals should be the lifting points. For vehicles with high tailboards, the animals shall be lifted onto the handler's shoulder during loading and unloading.
- Adequate ventilation shall be ensured during transportation, especially when vehicles are stationary in hot climates. The animal compartment or cage shall be protected from dry air, exhaust fumes and dust. If animals are transported using open vehicles on dusty roads, the animal vehicle shall lead the convoy to avoid dust from other vehicles.
- On long journeys, dogs shall be provided with water to drink every two hours and exercised for at least 10 minutes every four hours. It may be necessary to muzzle dogs and take them out one at a time during rest periods to prevent animal fights. Other species of animals shall be cared for according to their needs.

- During international transportation by air, animal cages shall comply with the regulations provided by the International Air Transport Association (IATA). The same cage size regulations can be applied for land and sea transportation.

## 8.2 Transport cage requirements

When transporting animals, it is crucial to ensure that the transport cages used meet specific standards for safety, comfort and practicality. The following minimum standards apply for the transportation of animals.

- Material of construction. Transport cages should be made of fibreglass, metal, or rigid plastic for enhanced strength and ease of cleaning and disinfection. Transport cages may also be made of wood. Wooden cages are not advised for daily use as they are difficult to clean and disinfect. Wooden cages should not be used for larger animals as they are not robust.
- Frame and structure. The cage shall have a strong frame, free of protruding studs or bolts. If exposed to extremely hot or cold climates, metal cages are not recommended due to metal's thermal conductivity.
- Door design. Access to the cage shall be through a secure hinged or sliding door, fitted with bars, welded mesh or smooth-expanded metal that is securely fixed.
- Cage size. The cage shall be spacious enough to allow the animal to move and turn around, yet not excessively large to prevent injury during transport.
- Floor covering. A non-slip carpet or slip-resistant material shall line the cage floor to prevent injury from sliding.
- Ventilation. If necessary, the main ventilation shall be enhanced with regularly distributed slots or holes, ensuring the animal cannot poke its nose or paws through these openings.

## 8.3 Recovery after transportation

After shipment into an area, animals shall be given a recovery period of at least two days, to allow for acclimatization to the new environment. Animals that are frequently transported may require shorter recovery periods than animals that are rarely moved.

## 9 Contagious and epidemic diseases

Many diseases are contagious and some of the most contagious are epidemic. The most common epidemic diseases in animals are those that affect the digestive tract, causing diarrhea and vomiting.

ADS organizations shall establish strict protocols to manage and prevent the spread of contagious and epidemic diseases among animals used in demining operations. Such protocols include:

- hygiene and vaccination. Organizations shall maintain rigorous hygiene practices and ensure up-to-date vaccinations for all animals to prevent the outbreak of contagious diseases, particularly those causing digestive issues and respiratory infections like kennel cough;
- immediate quarantine measures. In the event of a suspected contagious or epidemic disease, the affected animals shall immediately be quarantined to halt the spread of the infection;
- operational withdrawal and assessment. If an animal shows signs of an epidemic disease during operations, all animals in the vicinity shall be withdrawn from operations. A thorough assessment shall be conducted to identify potentially infected animals;
- separate housing and exercise. During the assessment period, all animals shall be housed separately and exercised in different areas to prevent cross-contamination;

- disinfection of facilities. If an epidemic disease is suspected in a kennel, all animals shall be removed and examined externally. The kennel and associated facilities shall be thoroughly disinfected. The areas used by the animals shall be designated as restricted zones until an infection is confirmed;
- monitoring and separation of animals. Animals shall be kept in isolation while infection rates are determined. Immediate quarantine applies to any identified infected animal(s); and
- reporting obligations. The ADS organization shall report all instances of epidemic diseases to the NMAA and any other relevant organization.

## **10 Retirement of animals**

ADS organizations should implement a process of adoption and retirement. They should also prioritize the welfare of the animals, ensuring that they are placed in environments where they can live out their retirement comfortably and safely. This may involve adoption into private homes, placement in specialized retirement facilities, or remaining with their handlers and have access to medical care.

## **11 Euthanasia of animals**

Euthanasia of animals shall be approached with strict adherence to ethical guidelines and procedural correctness. The circumstances under which euthanasia may be deemed necessary are as follows:

- chronic and untreatable ailments;
- critical injuries;
- terminal illness;
- degenerative conditions due to ageing;
- unmanageable aggressive behaviour; and
- infectious diseases.

## **12 Legal and regulatory compliance**

ADS organizations shall ensure all mine action activities with animals are in compliance with the relevant national regulations.

NMAAs and ADS organizations shall regularly update their knowledge and practices in line with changes in legal and regulatory frameworks.

## **13 Evaluation and continuous improvement**

ADS organizations shall implement a comprehensive programme encompassing quality assurance and quality control. This includes both routine checks and systematic evaluations of procedures and outcomes. The programme shall include periodic reviews of animal care and management practices to assess their effectiveness and efficiency. Continuous improvement in animal well-being and operational performance shall be a key focus, and the programme shall actively encourage feedback from handlers and staff. Refer to IMAS 07.30, Quality management in mine action, for further guidance.

## **14 Environmental considerations**

ADS organizations shall assess and minimize the environmental impact of ADS operations and housing. This is achieved by implementing sustainable practices in the care and management of animals, which includes aspects

such as waste management, disposal of deceased animals and efficient resource use. Refer to IMAS 07.13, Environmental management and climate change in mine action, for further guidance.

Furthermore, ADS organizations shall adapt animal care and training to local environmental conditions to ensure their well-being and effectiveness (taking into account factors like climate, terrain and local flora and fauna and tailoring care and training methods accordingly).

## **15 Responsibilities**

### **15.1 National mine action authority (NMAA)**

The NMAA, or an agency acting on its behalf, shall:

- develop and implement relevant national standards and other guidelines governing the use of ADS within a mine action programme to include guidelines for occupational health and general animal care. Where applicable, any national regulations concerning the health and safety of working animals shall be incorporated into national standards and accreditation and operational testing of ADS and handlers (Refer to IMAS 07.31, Accreditation and operational testing of animal detection systems and handlers, for further guidance); and
- assist demining organizations with the provision of information on endemic diseases and health hazards that may affect the use of ADS within an MA programme.

### **15.2 ADS organizations**

ADS organizations shall:

- establish systems, procedures and facilities to ensure the occupational and general healthcare of animals. These shall be in accordance with national standards and other guidelines governing the use of ADS within an MA programme. In cases where national standards and guidelines are not available, the provisions of IMAS 09.40, IMAS 09.41 and this standard shall apply;
- ensure that all personnel responsible for the occupational and general healthcare of animals are suitably trained and qualified for the tasks they are required to carry out. They shall be trained and qualified in accordance with T&EP 07.31/02, Competencies required for animal detection systems (ADS) handlers, team leaders and instructors; and
- report all cases of epidemic diseases to other ADS organizations and to the national mine action authority (NMAA).
- ensure that suitable veterinary support is available for animals as required;

ADS organizations should:

- assist the host nation during the establishment of an NMAA, in framing national standards for ADS operations to include the occupational and general healthcare of ADS; and
- establish liaison with other ADS organizations employing ADS to ensure consistency in standards for the occupational and general healthcare of ADS.

### **15.3 Donors and international organizations**

Donors and international organizations should assist the NMAA, or any organization acting on its behalf, with the development and implementation of national standards and other guidelines on the occupational and general healthcare of animals.



In the absence of a national authority, donors and international organizations should assist and encourage demining organizations employing ADS to establish and implement systems, procedures and facilities for the occupational and general healthcare of animals.

## **Annex A (normative)**

### **References**

- [1] IMAS 04.10, Glossary of mine action terms, definitions and abbreviations
- [2] IMAS 07.13, Environmental management and climate change in mine action
- [3] IMAS 07.30, Quality management in mine action
- [4] IMAS 07.31, Accreditation and operational testing of animal detection systems and handlers
- [5] T&EP 07.31/02, Competencies required for animal detection systems (ADS) handlers, team leaders and instructors
- [6] IMAS 09.40, Animal detection systems – principles, requirements and guidelines
- [7] IMAS 09.41, Operational procedures for animal detection systems

## Annex B (informative)

### Logbook healthcare check points

Daily	Quarterly
<b>General physical and mental health</b>	
Observe the animal's general condition, willingness to work, play and respond to positive stimuli.	In addition to daily checks, assess pulse condition, respiration and lung function. Measure the weight of animals. (Perform blood and urine tests annually)
<b>Skin and coat condition</b>	
Examine the skin and coat, feeling for wounds, ticks, thorns, areas of matted hair, lumps, bumps, and check for ectoparasites.	Examine the skin and coat, feeling for wounds, ticks, thorns, areas of matted hair, lumps, bumps, and check for ectoparasites. Consult with handlers about ectoparasites infestation history. Apply ectoparasites protection, if needed.
<b>Limbs and appendages</b>	
Check the condition of legs, tail and paws/claws. Look for hot spots, swollen joints, dry pads, long/damaged claws and signs of fungal diseases.	Check the condition of legs, tail and paws/claws. Look for hot spots, swollen joints, dry pads, long/damaged claws and signs of fungal diseases.
<b>Anal and genital region</b>	
Examine the anal region, vagina/penis and testes. Look for swelling, irritation and other abnormalities.	Examine the anal region, vagina/penis and testes. Look for swelling, irritation and other abnormalities. Consult with handlers about endoparasites infestation history.
<b>Sensory organs</b>	
Assess the condition of nose, eyes, ears, mouth, throat and teeth. Check for swelling, colour changes, inflamed gums, bad breath, foreign objects, loose or broken teeth.	Assess the condition of nose, eyes, ears, mouth, throat and teeth. Check for swelling, colour changes, inflamed gums, bad breath, foreign objects, loose or broken teeth, and accumulated tartar, and clean them if necessary.
<b>Hydration and nutritional status</b>	
Monitor appetite and thirst/water consumption. Check visually for hydration status.	Check appetite history and faeces by consulting with animal handlers.
<b>Temperature and other health indicators</b>	
Check temperature if there is any doubt about the animal's health.	In addition to temperature, inspect lymph nodes for swelling or sore points.
<b>Prophylactics, treatments and medications</b>	
Record any medicine usage or treatment that has been applied.	Document the use of medicines, deworming, treatments and other prophylactics. Check vaccination status. Apply endoparasites protection, if needed.
<b>Abuse and neglect indicators</b>	
Observe and document any unusual behaviour that might be a sign of abuse and neglect.	Observe and document any signs of abuse and neglect.
<b>Documentation</b>	
Complete documentation as outlined in the quality management processes.	Complete documentation as outlined in the quality management processes.

## Annex C (informative)

### Permanent kennel facility recommendations

Construction	The kennel should be purpose-built, constructed of brick/breeze blocks, or wood covered by tiles or other appropriate surface material. There should be no sharp, poisonous or hazardous objects within reach of the animal. The floor should have a surface impervious to water.
Temperature and ventilation	The kennel should be well ventilated and, if necessary, protected against noise, uncomfortable chill, heat, dry air and humidity. The shelter should facilitate a comfortable interior temperature (10–30 °C) independent of weather conditions. The use of air conditioning may be necessary under extremely hot and humid conditions but should be avoided if possible as it may interfere with the animal's adaptation to field conditions.
Kennel size	The kennel size requirement depends on the size of the animal, the number of animals in each kennel, and the length of time the animal spends in the kennel. Each kennel should, however, be large enough for the bedding to be placed at the back and for the animal to stand, turn, lie and change position without any discomfort.
Lighting	The kennel facility should be equipped with a lamp to enable observation and assessment of the animals at any time.
Running facility	A separate run associated with each kennel is desirable.
Visibility	The environment immediately outside the kennel should be visible to the animal.
Inside material	All materials used inside the kennel should be easy to change, wash and dry to minimize the spread of parasites and diseases.
Relief area	The kennels should be close to an exercise or relief area. The relief area should be fully enclosed to a height of approximately 2 m.
Hygiene	There should be access to water for cleaning. A hygienic method shall be established for faeces disposal. If national health and safety requirements exist, these should be followed.
Drinking water	The animal shall have constant access to clean drinking water.
Food preparation	The kennels should be close to a hygienic food preparation area. There should be a separate store for animal food, which shall be protected from damp and vermin. A freezer and refrigerator should be available if fresh foods are used.
Cleaning/treatment area	There should be a bathing, grooming and treatment area for the animals.
Quarantine facility	There should be a facility available for the quarantine of infectious animals to protect the rest of the animal population.
Sleeping place	The animal bedding shall provide warmth and be placed upon a platform about 10 cm above the ground on blocks or supports.

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## Amendment record

### Management of IMAS amendments

The IMAS series of standards are subject to formal review on a three-yearly basis. However, this does not preclude amendments being made within these three-year periods for reasons of operational safety and efficiency or for editorial purposes.

As amendments are made to this IMAS they are given a number. The date and general details of the amendment shown in the table below. The amendment is also shown on the cover page of the IMAS by the inclusion under the edition date of the phrase "*incorporating amendment #.*"

As the formal reviews of each IMAS are completed, new editions may be issued. In this case, amendments up to the date of the new edition are incorporated into the new edition and the amendment record table cleared. Recording of amendments then starts again until a further review is carried out.

The most recently amended IMAS are posted on the IMAS website at [www.mineactionstandards.org](http://www.mineactionstandards.org).

Number	Date	Amendment details