INTERNATIONAL STANDARD

ISO 16165

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Ships and marine technology — Marine environment protection — Terminology relating to oil spill response

Navires et technologie maritime — Protection de l'environnement marin — Terminologie relative à la réponse aux déversements de pétrole

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Foreword

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International Standard ISO 16165 was prepared by Technical Committee ISO/TC 8, *Ships and marine technology*, Subcommittee SC 2, *Marine environment protection*.

Introduction

Communication is important in the implementation of an effective spill response and this communication will be the most effective if there is a common understanding of the terms used.

Many of the terms and definitions listed here have been widely used for many years, while others are the results of recent experience. The gradual evolution of our understanding of oil spill behaviour and response and response measures means that oil spill terminology will continue to develop.

Ships and marine technology — Marine environment protection — Terminology relating to oil spill response

1 Scope

This International Standard contains terms and definitions relating to oil spills and their control. The objective of this International Standard is to provide standardized terminology relating to oil spill response, defined as the broad range of activities related to spill cleanup, including surveillance and assessment, containment, recovery, dispersant-use, in-situ burning, shoreline cleanup and disposal.

2 Terms and definitions

2.1 Oil/oil slick properties

2.1.1
crude oil
naturally occurring form of petroleum, mainly occurring in a porous underground formation such as sandstone

[ISO 1998-99:2000]

2.1.2
emulsification
process in which microscopic droplets of water are mixed into the oil or are dispersed throughout the water

2.1.3
emulsion
mixture of oil and water in which droplets of water are dispersed throughout the oil or vice versa, formed when fluids are mixed by mechanical action

NOTE Emulsions are more precisely referred to as water-in-oil or oil-in-water emulsions. Water-in-oil emulsions are occasionally referred to as "mousse" or "chocolate mousse".

2.1.4
environmental fate
form and location of a material resulting from transport and transformation

[ASTM E 943-95]

2.1.5
heavy shoreline oiling
pooled deposits or a layer of surface oil

[AURIS 1994]

2.1.6
moderate/light shoreline oiling
sheen or film of surface oil

[AURIS1994]

2.1.7
petroleum oil
material consisting of, or derived from, a mixture of liquid or semi-solid organic compounds, principally hydrocarbons

[ISO 1998]

2.1.8
relative viscosity
measured viscosity of an emulsion (in any convenient unit) at a given shear rate divided by the measured viscosity of the oil at the same shear rate

NOTE 1 It is important to report the shear rate used in the viscosity measurements of the emulsion and the water free oil.

NOTE 2 Adapted from ASTM F 873-84 (88).

2.1.9
pour point
lowest temperature at which a sample of petroleum product will continue to flow when it is cooled under specified standard conditions

[ISO 3016:1994]

2.1.10
sheen
very thin oil slicks with a silvery or rainbow-coloured appearance and with a thickness of less than 0,001 mm

2.1.11
specific gravity
ratio of the mass of a given volume of liquid at 15 °C to the mass of an equal volume of fresh water at the same temperature

[ASTM D 4410-95]

2.1.12
viscosity
measure of the resistance to flow or deformation of a liquid

[ISO 3104:1994]

2.1.13
windrows
narrow bands of oil, generally aligned with the wind direction, typical of an oil slick after several hours of exposure (or days for very large spills)

2.2 Oil classification

2.2.1
group I oil
non-persistent oil
petroleum-based oil that consists of hydrocarbon fractions, at least 50 per cent of which distill at a temperature of 340 °C and at least 95 per cent of which distill at a temperature of 370 °C

2.2.2
group II oil
persistent oil with a specific gravity of less than 0,85

2.2.3
group III oil
persistent oil with a specific gravity equal to or greater than 0,85 and less than 0,95

2.2.4
group IV oil
persistent oil with a specific gravity greater than 1,00

2.2.5
group V oil
persistent oil with a specific gravity greater than 1,00

2.2.6
persistent oil
petroleum-based oil that does not meet the distillation criteria for a group I oil

2.3 Environmental conditions

2.3.1
air temperature
average or point temperature of the air measured at or near the ground or water surface (°C)

[ASTM F 625-94]

2.3.2
current
average water speed and direction (i.e. velocity) relative to a fixed reference point (m/s)

[ASTM F 625-94]

2.3.3
debris
solid or semisolid substance that could interfere with the operation of a spill control system

[ASTM F 625-94]

2.3.4
significant wave height
average height, measured crest to trough, of the one-third highest waves, considering only short-period waves (i.e. period less than 10 seconds) (m)

[ASTM F 625-94]

2.3.5
significant wave period
average period of the one-third highest waves, measured in seconds as the elapsed time between crests of succeeding waves past a fixed point(s)

[ASTM F 625-94]

2.3.6
water temperature
average or point temperature of a water body as measured within the top 300 mm (°C)

[ASTM F 625-94]

2.3.7
wind direction
direction from which the wind is blowing

[ASTM F 625-94]

2.4 Assessment techniques

2.4.1
ladder search
aerial surveillance to find and delineate oil slicks, carried out in a direction perpendicular to the wind in order to increase the probability of locating slicks and windrows

2.4.2
oil spill modelling
mathematical prediction of the environmental fate and/or behaviour of an oil spill

2.4.3
remote sensing
use of sensors to find delineate oil slicks, mounted on a variety of platforms such as ships, aircraft and satellites

2.4.4
surveillance
response activities with the purpose of detecting a spill, determining the extent and behaviour of a spill, optimizing countermeasures and/or predicting spill movements and effects

2.5 Sampling

2.5.1
chain-of-custody documentation
chronological evidence defining the history of an item, such as a sample, and identifying an individual responsible for custody of the item at each point in time

[ASTM D 4840-95]

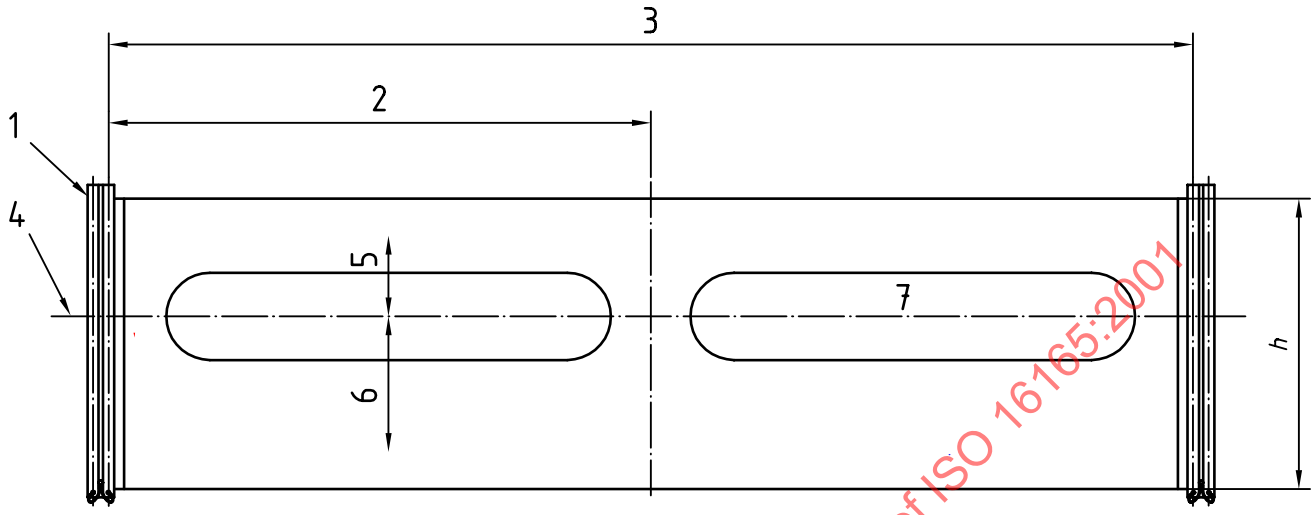
2.5.2
custody
physical possession or control

NOTE 1 A sample is under custody if it is in an individual's possession or under the immediate control of an individual to prevent altercation of characteristics.

NOTE 2 Adapted from ASTM D 4840-95.

2.6 **Containment** (based on ASTM F 818-93)

2.6.1 Floating boom equipment terminology



Key

1 Boom end connector
2 Boom segment
3 Boom section
4 Water line
5 Freeboard
6 Draught
7 Flotation chamber
h Overall height

Figure 1 — Containment boom equipment

2.6.1.1
anchor point
structural point on the end connector or along the length of a boom section designed for the attachment of anchor or mooring lines

2.6.1.2
barrier
method of controlling the movement of oil or other substances on the water surface or in the water column

2.6.1.3
boom
floating mechanical barrier used to control the movement of substances that float

2.6.1.4
boom section
length of boom between two end connectors

2.6.1.5
boom segment
repetitive and similar portion of the boom section

2.6.1.6
bridle
device attached to a boom to distribute the load exerted by towing or anchoring the boom

2.6.1.7
curtain type boom
boom consisting of a flexible skirt supported by vertical centreline flotation

2.6.1.8
end connector
device attached to the boom used for joining boom sections to one another or to other accessory devices

2.6.1.9
"fence type" boom
boom consisting of a self-supporting or stiffened membrane supported by floating devices

2.6.1.10
fire resistant boom
boom intended for containment of burning oil slicks

2.6.1.11
inflatable boom
boom that uses inflatable chambers, self-inflatable or manually, as the flotation device

2.6.1.12
shore seal boom
boom that, when grounded, seals against the shoreline

2.6.1.13
sorbent boom
material contained or arranged in the form of a boom that has absorptive or adsorptive capabilities

2.6.1.14
special purpose boom
boom that departs from the general characteristics of "fence type" and "curtain type" booms, either in design or intended use

2.6.2 Engineering terminology

2.6.2.1
buoyancy chamber
enclosed compartment of air or other buoyant material providing flotation for the boom

2.6.2.2
gross buoyancy
weight of fresh water displaced by an entire boom section when totally submerged

2.6.2.3
gross buoyancy to weight ratio
gross buoyancy divided by boom weight

2.6.2.4
operational draft
minimum vertical depth of the boom below the water-line

2.6.2.5
operational freeboard
minimum vertical height of the boom above the water-line

2.6.2.6
operational height
sum of operational draft and operational freeboard

2.6.2.7
overall height
maximum vertical dimension of boom

2.6.2.8
reserve buoyancy
gross buoyancy minus boom weight

2.6.3 Operational terminology

2.6.3.1
boom planing
heeling over of a boom and a loss of draught

2.6.3.2
boom submergence
containment failure due to loss of freeboard

2.6.3.3
bridging failure
portions of a boom emerging from the water due to poor wave conformance, with resulting containment failure

2.6.3.4
cascading booms
booming configuration formed by positioning two or more booms in a deflection mode such that successive booms progressively move oil into the desired area

2.6.3.5
catenary configuration
booming configuration formed by towing or anchoring each end of a length of boom resulting in a characteristic "J" or “U” shape

2.6.3.6
catenary drag force
longitudinal load imposed on a boom, deployed in a catenary configuration, resulting from towing, current and/or wind forces

2.6.3.7
diversion mode
placement of a boom to redirect the movement of a floating substance

2.6.3.8
drainage loss
oil lost due to the accumulation or pooling against the boom skirt and escaping with the flow of the water down and along the skirt

NOTE Accumulated oil is the cause for loss rather than water flow.

2.6.3.9
entrainment loss
oil released from the underside of an oil slick at the boom by the flow of water (e.g. high current conditions)

2.6.3.10
exclusion booming
placement of a boom to protect an area from the entry of a floating substance

2.6.3.11
first-loss tow
current velocity
minimum tow/current velocity measured perpendicular to the boom at which oil escapes past a boom

2.6.3.12
gap ratio
sweep width divided by boom length

2.6.3.13
loss rate
rate at which oil is lost past a boom (m^3/h)

2.6.3.14
splash-over
oil passing over the top of the boom

2.6.3.15
straight line drag force
longitudinal drag force that results from towing a boom from one end

2.6.3.16
structural failure
failure that occurs when any external force acting on the boom exceeds the tensile strength of the boom

2.6.3.17
sweep width
width intercepted by a boom in collection mode, the projected distance perpendicular to the direction of travel or current between the ends of a boom deployed in a "U", "V" or "J" configuration

2.6.3.18
tear resistance
force required to separate boom parts

NOTE Tear resistance is relevant for attachments to the fabric and is also an important measure of boom fabric strength.

2.6.3.19
tensile strength
force required to stretch boom material to the point where it fails and tears apart

2.6.3.20
vortex loss
oil escaping past a boom due to drainage vortices produced at the boom

2.6.3.21
“J” configuration
catenary configuration
boom positioned in a "J" shape

2.6.3.22
"U" configuration
boom positioned in a "U" shape

2.6.3.23
"V" configuration
boom positioned in a "V" shape

2.7 Recovery

2.7.1 Equipment terminology

2.7.1.1
dedicated response equipment
spill response equipment dedicated to an area, port, facility or any other designated place or organization

2.7.1.2
skimmers
mechanical devices used to remove oil from the water surface

[API 1995]

2.7.1.3
sorbent
material used to recover fluids through the mechanism of absorption or adsorption or both

[ASTM F 1127-88]

2.7.1.4
vessel-of-opportunity
watercraft which normally have duties other than spill response, but are pressed into service as available

2.7.2 Performance terminology

2.7.2.1
derating factor
reduction factor, applied to nameplate recovery rates, to account for less than optimum performance due to less than ideal oil slick and environmental conditions

2.7.2.2
fluid recovery rate
total volume of fluid recovered by the skimmer per unit time (m^3/h)

2.7.2.3
nameplate recovery rate
maximum volume of fluid that can be recovered by a skimmer per unit time, as stated by the manufacturer (m^3/h)

2.7.2.4
oil recovery rate
volume of water-free oil removed from the water surface by the skimmer, per unit time (m^3/h)

[ASTM F 808-83 (88)]

2.7.2.5
oil slick
oily fluid floating on the surface of the water

2.7.2.6
oil slick encounter rate
volume of oil slick per unit time actively encountered by the oil spill response system, and therefore available for containment and recovery (m^3/h)

[ASTM F 1688-96]

2.7.2.7
oil slick recovery efficiency
ratio, expressed as a percentage, of the oil slick recovery rate to the total volumetric rate of fluids recovered

[ASTM F 808-83 (88)]

2.7.2.8
oil slick recovery rate
volume of oil slick removed from the water surface by the skimmer, per unit time (m^3/h)

[ASTM F 808-83 (88)]

2.7.2.9
oil spill recovery system
combination of devices that operate together to recover spilled oil

NOTE 1 The system would include, but is not limited to, some or all of the following components:

a) floating boom;

b) skimmer;

c) support vessels to deploy and operate the boom and skimmer;

d) discharge/transfer pumps;

e) oil/water separator;

f) temporary storage devices;

g) shore based storage/disposal.

NOTE 2 Adapted from ASTM F 1688-96.

2.7.2.10
recovery efficiency
ratio, expressed as a percentage, of the volume of oil recovered to the volume of total fluids recovered

[ASTM F 631-93]

2.7.2.11
response time
time interval between the time of notification of a spill incident and the start of cleanup operations

2.7.2.12
throughput efficiency
ratio, expressed as a percentage, of the volume of oil recovered to the volume of oil encountered

[ASTM F 631-93]

2.7.3 Storage terminology

2.7.3.1
temporary storage device
receptacle used to hold recovered fluids until they can be disposed of permanently

[ASTM F 1599-95]

2.7.3.2
open pool
open-topped container used to store recovered fluids

[ASTM F 1599-95]

2.7.3.3
pillow tank
closed, generally rectangular or round coated fabric receptacle

[ASTM F 1599-95]

NOTE Pillow tanks can be floated and/or land based.

2.7.3.4
towable flexible tank
receptacle that is characterized by flexibility along its length

[ASTM F 1599-95]

2.7.3.5
towable open tank
open, inflatable, barge-type vessel that resembles a large inflatable boat, characterized by a portion of the top surface being open to atmosphere

[ASTM F 1599-95]

2.8 Dispersant use

2.8.1
application rate
volume of dispersant applied per unit area (m^3/km)

2.8.2
application efficiency
proportion of the volume of dispersant applied that is deposited on the target slick

2.8.3
approved dispersant
dispersant accepted and listed for use by authorized regulatory agencies

2.8.4
dispersant
surface-active agent used to decrease the interfacial tension between oil and water and to enhance the dispersion of the oil into fine droplets into the water column

[CONCAWE 1981]

2.8.5
dispersant effectiveness
for a given oil slick or area, the percentage of oil that is dispersed into the water column

2.8.6
dispersant exclusion zone
areas in which dispersant is not permitted due to possible detrimental environmental effects or other factors

2.8.7
dosage ratio
volume of dispersant applied per volume of oil

2.8.8
effects monitoring
measurement of effects on specified target species resulting from dispersant application

2.8.9
effectiveness monitoring
visual or other observations to determine the effectiveness of the dispersant application

2.8.10
emulsion breakers
chemicals used to break emulsions

2.8.11
herding
collection of floating oil into a smaller surface area caused by increasing surface tension exerted by the dispersing applied chemical

[Exxon 1994]

2.8.12
pre-approved zones
areas that have received pre-approval (perhaps with specified conditions) for the use of dispersants, bioremediation agents, in-situ burning or other response techniques on marine oil spills, having met certain criteria for possible environmental effects

2.8.13
spray drift
movement of airborne spray particles from the intended application (target) area

[ASTM E 609-81(91)]

2.9 Removal by *in situ* burning

2.9.1
burn rate
rate at which an oil slick is combusted per unit area ($m^3/m^2/h$)

2.9.2
combustion promoter
substance added to an oil slick to increase the efficiency of *in situ* burning

NOTE These substances typically act as either a wicking agent or an insulator between the water substrate, or a combination of the two.

2.9.3
controlled burning
in situ burning application that is started and can be stopped by human intervention

2.9.4
igniter
device or system used to initiate an *in situ* burn

2.9.5
ignition promoter
substance added to an oil slick to increase the ignitability of the slick or to promote spreading of flame over the surface of un-ignited oil

2.9.6
***in situ* burning**
burning of marine oil spills "in place" on the water surface

2.9.7
***in situ* burning efficiency**
ratio, expressed as a percentage, of the volume of oil that was removed by burning compared to the total volume of oil that was originally ignited

NOTE This value is calculated as the initial volume of oil less the volume remaining as residue, divided by the initial volume.

2.9.8
***in situ* burn residue**
the material remaining after an *in situ* burn

2.9.9
overall burning removal rate
volume of oil burned per unit time for a given burn application (m^3/h)

2.10 Shoreline cleanup

2.10.1 Shoreline terminology

2.10.1.1
asphalt pavement
naturally formed cohesive mixture of weathered oil and sediments

NOTE 1 Sediments in the mixture are usually in the sand/granule/pebble size range. In appearance, natural asphalt pavement may resemble the mixture artificially created to surface roads.

NOTE 2 Adapted from ASTM F 1687-96.

2.10.1.2
ecological recovery
progressive change of an ecosystem towards the natural range of dominance, diversity, abundance and zonation characteristics of the local unaffected ecosystems

NOTE 1 A shore is in a "recovered" condition when the natural biota has been established and is within the range and diversity and abundance expected for the habitat.

NOTE 2 Adapted from AURIS 1994.

2.10.1.3
ecosystem
combination of populations of different species that live together and interact with each other and the physical and chemical factors making up its environment

2.10.1.4
environmental sensitivity
susceptibility of a local environment or area to any disturbance which might decrease its stability or result in either short or long-term adverse effects

NOTE 1 Environmental sensitivity generally includes physical, biological and socio-economic parameters.

NOTE 2 Adapted from BASICS 1979.

2.10.1.5
sediment sizes

2.10.1.5.1
boulder
component of a sediment with a diameter > 256 mm

2.10.1.5.2
cobble
component of a sediment with a diameter of 64 mm to 256 mm

2.10.1.5.3
pebble
component of a sediment with a diameter of 4 mm to 64 mm

2.10.1.5.4
granule
component of a sediment with a diameter of 2 mm to 4 mm

2.10.1.5.5
sand
component of a sediment with a diameter of 0,06 mm to 2 mm

2.10.1.5.6
mud
component of a sediment with a diameter < 0,06 mm

2.10.1.5.7
silt
component of a sediment with a diameter < 0,06 mm

2.10.1.5.8
clay
component of a sediment with a diameter < 0,06 mm

2.10.1.6
special use habitat
area of critical concern due to the presence of marine mammals, birds or endangered species

NOTE 1 Its designation may be seasonal.

NOTE 2 Adapted from API 1995.

2.10.1.7
shore zones

2.10.1.7.1
foreshore zone
area below mean low tide

2.10.1.7.2
intertidal zone
shoreline between the low tide mark and the high tide mark which is covered by water at some time during the tide cycle

NOTE 1 The size of the intertidal zone varies with the tidal characteristics of a given region as well as the shoreline characteristics.

NOTE 2 Adapted from BASICS 1979.

2.10.1.7.3
supratidal zone
area above the mean high tide that experiences wave activity occasionally

NOTE 1 Also known as backshore zone.

NOTE 2 Adapted from ASTM F 1687-96.

2.10.1.8
weathered oil
oil that has had an alteration of physical or chemical properties, or both, through a natural process such as evaporation, dissolution, oxidation, emulsification and biodegradation

2.10.2 Cleanup methods terminology

2.10.2.1
bioaugmentation
addition of microorganisms (predominantly bacteria) to increase the biodegradation rate of target pollutants

[ASTM F 1600-95a]

2.10.2.2
biodegradation
chemical alteration and breakdown of a substance to usually smaller products caused by microorganisms or their enzymes

[ASTM F 1481-94]

2.10.2.3
bioremediation
enhancement of biodegradation

[ASTM F 1600-95a]

2.10.2.4
bioremediation agents
inorganic and organic compounds and microorganisms that enhance biological degradation processes, predominantly by micro-organisms decomposition

[ASTM F 1481-94]

2.10.2.5
cleaning stage 1
initial phase in a shoreline treatment operation involving the removal of bulks of oil and oiled beach sediments

2.10.2.6
cleaning stage 2
intermediate phase in a shoreline treatment operation involving the removal of the majority of oil beach sediments and floating oil

2.10.2.7
cleaning stage 3
final or cosmetic treatment phase in a shoreline treatment operation

2.10.2.8
cleaning level 1
shoreline condition that results from a decision not to clean

2.10.2.9
cleaning level 2
shoreline condition that results from a decision to clean to a minimum level

NOTE Removal of floating and bulk of oil is an example of cleaning to a minimum level.

2.10.2.10
cleaning level 3
shoreline condition that results from a decision to clean to full restoration

2.10.2.11
cleaning level 4
shoreline condition that results from a decision to clean to a pristine level

NOTE This is cleaning beyond the existing background concentration for oil on the shoreline.

2.10.2.12
high pressure flushing
removing oil from a shoreline with water streams at a pressure high enough to cause transport of beach sediments and organisms

NOTE 1 This is generally more than 0,7 Mpa.

NOTE 2 Adapted from API 1995.

2.10.2.13
low pressure flushing
removing oil from a shoreline using water streams at a pressure low enough that beach sediments and organisms are not moved

NOTE 1 This is generally less than 0,7 Mpa.

NOTE 2 Adapted from API 1995.

2.10.2.14
manual removal
removal of oil and contaminated debris by hand tools such as rakes, scrapers, hoses, shovels and buckets

[API 1995]

2.10.2.15
natural biodegradation
type of natural cleansing characterized by the reduction in concentration of chemical(s) of concern through naturally occurring microbial activity

[E 1739-95]

2.10.2.16
natural cleansing
natural physical, chemical or biological mechanisms such as wind and wave action, sunlight and natural microbial action that promote the removal, breakdown and dispersal of oil

[API 1995]

2.10.2.17
shoreline cleanup
actions taken to remove oil from a shoreline with the objective of enchancing the process of ecological recovery

NOTE Shoreline cleanup options could include flushing and removal of oil, displacement or removal of oiled sediments or natural cleansing.

2.10.2.18
steam cleaning
using steam or high temperature water under pressure to remove oil from solid surfaces

[API 1995]

2.10.2.19
substrate displacement
moving oiled sediment to the lower intertidal zone to be reworked and cleaned by natural processes

[API 1995]

2.10.2.20
substrate removal
use of equipment such as bulldozers, backhoes and graders to remove oiled substrate

NOTE 1 Oiled material is subsequently transported to a disposal site.

NOTE 2 Adapted from API 1995.

2.11 Disposal

2.11.1
incineration
controlled burning of waste products or other combustible material in an incinerator or similar apparatus

2.11.2
incinerator
device constructed for the purpose of disposing of material through thermal oxidation

2.11.3
land farming
controlled method of spreading a known amount of oil in a nominally uniform layer thickness into a designated land area for the purpose of biological decomposition

NOTE This decomposition process is accelerated by mixing the oil layer with the top few inches of soil, aerating the soil by occasional ploughing and adding fertilizers that include nitrogen and potassium to increase the oil decomposition rate.

2.11.4
landfill
land disposal technique that uses excavated pits to contain the oil spill waste material

NOTE The waste is placed in the excavation, covered over and left to degrade.

2.11.5
open burning
process of burning a material without the aid of an incinerator

2.11.6
recycling
disposal method that uses oil spill waste material in some manner other than returning it to a marketed product

NOTE Examples are road oiling and direct use as a fuel supplement.

2.11.7
reprocessing
reclaimed spilled oil by some type of treatment technique that returns the oil into a product that can be sold

NOTE Reprocessing is defined as recycling in Europe.

2.12 Spill management

2.12.1 Contingency planning

2.12.1.1
area contingency plan
initial governmental organization structure and mode provided for the spill response

[ASTM 1644-95]

2.12.1.2
contingency plan
plan of action prepared in anticipation of an oil spill

NOTE 1 A contingency plan usually consists of guidelines developed for a specific industrial facility or an entire region to increase the effectiveness, efficiency and speed of cleanup operations in the event of an oil spill, and, simultaneously, to protect areas of biological, social and economic importance.

NOTE 2 Adapted from BASICS 1979.

2.12.1.3
oil pollution incident
occurrence or series of occurrences having the same origin, which results or may result in a discharge of oil and which poses or may pose a threat to the marine environment or to the coastline related interests of one or more areas and which requires emergency action or other immediate response

NOTE Adapted from OPRC 1991.

2.12.1.4
oil spill cooperative
organization in a given area for the purpose of pooling equipment and training personnel to combat oil spills

[BASICS 1979]

2.12.1.5
public information officer
person nominated by the emergency operations centre (EOC) who disseminates appropriate and timely information

[ASTM D 1268-90]

2.12.1.6
sensitivity maps
maps used by the oil spill response team which designate areas of biological, social and economic importance in a given region

NOTE 1 These maps often rank sensitive areas so that in the event of an extensive spill these areas can be protected or cleaned up first.

NOTE 2 Sensitivity maps usually contain other information useful to the response team such as the location of shoreline access areas, landing strips, roads, communities and the characteristics of the shoreline area.

NOTE 3 Maps of this type form an integral part of local or regional contingency plans.

NOTE 4 Adapted from BASICS 1979.

2.12.2 Incident Command System

2.12.2.1
chain of command
series of management positions within an organization in order of authority

2.12.2.2
command
act of directing and/or controlling resources within an organization by virtue of explicit legal or delegated authority

2.12.2.3
delegation of authority
statement to the Incident Commander by the Executive delegating authority and assigning responsibility

NOTE 1 The Delegation of Authority can include objectives, priorities, expectations, constraints and other considerations or guidelines as needed.

NOTE 2 Many agencies require written Delegation of Authority prior to their assuming command on larger incidents.

2.12.2.4
emergency operations centre
EOC
pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency

2.12.2.5
finance/administration section
pre-designated facility established by an agency or jurisdiction to coordinate the overall agency or jurisdictional response and support to an emergency

2.12.2.6
function
five major activities in an incident command system, i.e. command, operations, planning, logistics and finance/administration

NOTE The term "function" is also used when describing the activity involved, for example the planning function.

2.12.2.7
incident
occurrence, caused by a human or natural phenomenon, that requires action by emergency service personnel to prevent or minimize loss of life or damage to property and/or natural resources

2.12.2.8
incident action plan
objectives reflecting the overall incident strategy and specific tactical actions and supporting information for the next operational period

NOTE The plan may be oral or written. When written, the plan may have a number of forms as attachments (e.g. traffic plan, safety plan, communications plan, map, etc.).

2.12.2.9
incident commander
individual responsible for the management of all incident operations at the incident site

2.12.2.10
incident command post
ICP
location at which the primary command functions are executed

NOTE The ICP may be collocated with the incident base or other incident facilities.

2.12.2.11
incident command system
ICS
standardized on-scene emergency management concept specifically designed to allow its user(s) to adopt an integrated organizational structure equal to the complexity and demands of single or multiple incidents, without being hindered by jurisdictional boundaries

2.12.2.12
incident objectives
statements of guidance and direction necessary for the selection of appropriate strategy(s) and tactical direction of organizational resources

NOTE Incident objectives are based on realistic expectations of what can be accomplished when all allocated resources have been effectively deployed. Incident objectives are achievable and measurable, yet flexible enough to allow for strategic and tactical alternatives.

2.12.2.13
logistics section
section responsible for providing facilities, services and materials for the incident

2.12.2.14
mutual aid agreement
written agreement between agencies and/or jurisdictions and/or organizations in which they agree to assist one another upon request by furnishing personnel and equipment resources

2.12.2.15
operations section
section responsible for all tactical operations at the incident

2.12.2.16
planning section
section responsible for the collection, evaluation and dissemination of tactical information related to the incident, and for the preparation and documentation of incident action plans

NOTE The section also maintains information on the current and forecasted situation and on the status of resources assigned to the incident.

2.12.2.17
staging area
locations set up at an incident where resources can be placed while awaiting a tactical assignment

NOTE The operations section manages staging areas.

2.12.2.18
unified command
unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives or strategies

NOTE This is accomplished without losing or abdicating agency authority, responsibility or accountability.

2.12.3 Safety

2.12.3.1
ceiling limit
exposure which shall not be exceeded during any part of the working day

NOTE 1 If instantaneous monitoring is not feasible, then the ceiling limit shall be assessed as a time-weight average exposure of 15 minutes not to be exceeded at any time over a working day, except for substances which cause immediate irritation upon short exposure.

NOTE 2 Adapted from ASTM E 1542-93.

2.12.3.2
green zone
support zone
minimal exposure area maintained as an uncontaminated location for support functions

NOTE 1 Food service, clean equipment storage and financial offices are examples of a green zone.

NOTE 2 Adapted from ASTM E 1644-95.

2.12.3.3
confined space
enclosed space or area, such as a tank, compartment or pit where ventilation or access, or both, may be limited

[ASTM F 1644-95]

2.12.3.4
red zone
early response zone
area where there are potential exposure hazards

NOTE 1 Airborne concentrations of hazardous substances may require respiratory protection in addition to other personal protective equipment.

NOTE 2 Adapted from ASTM F 1644-95.

2.12.3.5
hyperthermia
medical condition involving an abnormally high body temperature caused by exposure to elevated temperatures or radiant heat or both

[ASTM F 1644-95]

2.12.3.6
hypothermia
medical condition involving an abnormally low body temperature caused by exposure to cold air or water

[ASTM F 1644-95]

2.12.3.7
occupational exposure limit
maximum time-weighted average (TWA) concentration to which nearly all workers may be repeatedly subjected for a normal working day of 8 h to 10 h and a normal working week of 40 h without known adverse effects

NOTE 1 These concentrations are determined by national legislation.

NOTE 2 Adapted from ASTM E 1542-93.

2.12.3.8
personal protective equipment
PPE
equipment used to shield or insulate a person from a chemical, physical or thermal hazard

NOTE 1 Personal protective equipment is available for skin, eyes, face, hands, feet, ears and the respiratory system, as appropriate.

NOTE 2 Adapted from ASTM F 1644-95.

2.12.3.9
short-term exposure limit
STEL
time-weighted average exposure of 15 min not to be exceeded at any time during a working day, even if the occupational exposure limit is not exceeded

NOTE 1 Exposures above the occupational exposure limit up to the STEL should not be any longer than 15 min and should not occur more than four times per day. The minimum interval between these exposures should be 60 min.

NOTE 2 Adapted from ASTM E 1542-93.