



# MERENKULUHALLITUKSEN TIEDOTUSLEHTI

30. 4. 1981

Helsinki

No 16/81

## HIILILASTIEN KULJETTAMINEN LAIVALLA

Lisääntyneeseen hiilenkuljetustarpeeseen sekä erääseen äskettäin hiilenkuljetuksessa tapahtuneeseen onnettomuuteen viitaten alusten isäntiä, päällystöä ym. henkilökuntaa kehoitetaan kiinnittämään vakavaa huomiota niihin määräyksiin ja varotoimenpiteisiin, joita hiililastien kuljettamisesta on annettu eräiden tavarain ja elävien eläinten kuljetuksesta aluksessa annetun asetuksen (455/58) 4. luvun 9 §:ssä ja IMCO'n "Code of Safe Practice for Solid Bulk Cargoes 1980":ssa, josta oheistetaan hiilenkuljetusta koskeva osa sekä Merchant Shipping Notice N:o M.682.

Tällöin on erikoista huomiota kiinnitettävä hiilipölyn ja lastista mahdollisesti erittyvän metaanikaasun palo- ja räjähdysherkkyyteen sekä itsesyttymismahdollisuuteen. Lastitilan yhteydessä olevien tilojen tuuletuksesta sekä varsinaisen lastin pintatuuletuksesta ym. varotoimenpiteistä on huolehdittava annettujen ohjeiden mukaisesti.

Merenkulkuosaston päällikkö  
merenkulkuneuvos

Oso Siivonen

Merenkulunylitarkastaja

Alpo Parrila

DEPARTMENT OF TRADE

MERCHANT SHIPPING NOTICE No.M.682

CARRIAGE OF COAL CARGOES

Notice to Shipowners, Masters and Officers and to  
Shipbuilders and Ship repairers.

Several cases of explosions in ships carrying coal cargoes have occurred recently resulting in loss of life and serious injury to members of the crew. In two cases flammable gas evolved from the cargo, passed through a hold access hatch and accumulated in a mast house where an explosion resulted from the gas/air mixture being ignited. In a third case the gas probably accumulated and was subsequently ignited in a closed hatch access trunk.

Owners are therefore reminded of the possible explosion hazard associated with the carriage of coal cargoes and the need to provide adequate ventilation in areas where flammable gases may accumulate.

Special care should be taken where enclosed spaces are in direct communication with the cargo spaces. A warning notice against smoking and the use of naked lights should be posted at the entrance to such spaces. Electric power and lighting supplies to cargo spaces, deck houses, hatch trunks or other spaces where flammable gas may accumulate should be isolated when the cargo has been loaded and not reconnected until the space in question has been properly ventilated and its atmosphere sampled to show that it is safe. Alternatively, where appropriate, electrical equipment of a type certified for use in a methane atmosphere may be used.

Department of Trade

Marine Division

London WCIV6LP

May, 1974

(MS 7/6/00226)

**Code of Safe Practice for Solid Bulk Cargoes (pages 35–37):**

Material	UN number, IMCO Class, MFAG table number	Approximate angle of repose	Approximate stowage factor m <sup>3</sup> /t	Segregation and stowage requirements	Properties, observations and special requirements*
COAL (see also Appendix A)	— MHB —	30° to 65°	0.79 to 1.53	Boundaries of cargo spaces where bulks are carried should be resistant to fire and liquids.  Separated from materials of Classes 2, 3, 4 and 5. Stowage of Class 5.1 materials above or below prohibited.	<p><b>Properties</b></p> <p>1. Coals may emit methane, a flammable gas. A methane/air mixture containing between 5% and 15% methane constitutes an explosive atmosphere which can be ignited by sparks or naked flames, e.g. electrical or frictional sparks, a match or lighted cigarette.</p> <p>2. Some coals may be liable to spontaneous combustion and could cause a cargo space fire.</p> <p><b>Observations</b></p> <p><b>Special requirements</b></p> <p>Prior to loading, the shipper should advise the master whether the coal is liable to emit methane or be subject to spontaneous combustion.</p> <p>1.A If the cargo is liable to emit methane, then the master should take the following precautions:</p> <ul style="list-style-type: none"> <li>(i) Warning notices against smoking and the use of naked flames should be posted in the cargo space area.</li> <li>(ii) All electrical cables and components situated in cargo spaces and adjoining spaces should be free from defects and safe for use in a methane/dust atmosphere.</li> <li>(iii) All cargo spaces and bilge wells should be clean, dry and any residue of waste material of previous cargo be removed, including cargo battens, before loading.</li> <li>(iv) Ensure as far as is possible that any gases which may be emitted from the cargo do not have the opportunity of accumulating in adjacent enclosed spaces.</li> <li>(v) Ensure that the surface of the cargo is trimmed reasonably level to avoid the formation of gas pockets.</li> <li>(vi) Where available, a system of surface ventilation should be utilized to allow the free escape of explosive gases.</li> <li>(vii) Ensure that working spaces (e.g. deck stores, carpenter's shop etc.) are regularly monitored for the presence of methane.</li> <li>(viii) Personnel should not be allowed to enter a space where methane may accumulate unless the space has been tested and found to be safe.</li> </ul> <p>1.B Where for any reason it has not been possible to ventilate a cargo space prior to unloading, care should be taken to ensure that any accumulated gas cannot be ignited.</p> <p>2.A If the cargo is liable to spontaneous combustion then the following precautions should be observed:</p> <ul style="list-style-type: none"> <li>(i) All cargo spaces and bilges should be clean and dry before loading.</li> <li>(ii) Air should not be permitted to permeate into the body of the coal.</li> <li>(iii) For long sea voyages, suitable means should be provided to enable temperatures to be taken at least</li> </ul>

\* For comprehensive information on transport of any cargo listed, refer to Sections 1–11 of this Code.

Material	UN number, IMCO Class, MFAG table number	Approximate angle of repose	Approximate stowage factor m <sup>3</sup> /t	Segregation and stowage requirements	Properties, observations and special requirements*
COAL (continued)					<p><b>Special requirements</b> (continued)</p> <p>once daily at: (a) near the bottom of the stow, (b) the middle depth, (c) and such means to be evenly situated in at least three locations in the cargo space.</p> <p>(iv) Warning notices against smoking and the use of naked flames should be posted in the cargo space area.</p> <p>(v) All electrical cables and components situated in cargo spaces and adjoining spaces should be free from defects and safe for use in a methane/dust atmosphere.</p> <p>(vi) Personnel should not be allowed to enter a space where the presence of carbon monoxide may develop due to spontaneous combustion of the coal, unless they are wearing breathing apparatus or the space has been tested and found to be gas-free. The breathing apparatus should be worn only by personnel trained in its use.</p> <p>2.B Where the cargo has not been ventilated prior to unloading, care should be taken to ensure that any accumulated gas cannot be ignited.</p> <p>2.C Should a coal cargo be suspected of spontaneously combusting, e.g. if a rise in temperature occurs, then the cargo space should be completely closed down to prevent the entry of air.</p> <p>2.D If the temperature should rise to 55°C a potential fire situation is developing and the ship should make for the nearest suitable port. Water should not be used at sea. Early application of an inert gas to a smouldering situation may be effective. In port, copious quantities of water may be used but due consideration should be given to stability.</p>

\* For comprehensive information on transport of any cargo listed, refer to Sections 1-11 of this Code.





# SJÖFARTSSTYRELSENS INFORMATIONSBLAD

30. 4. 1981

Helsingfors

Nr 16/81

## TRANSPORT AV KOLLASTER OMBORD

Med hänvisning till det ökade behovet av koltransporter samt en olycka som nyligen inträffade i samband med en koltransport, uppmanas fartygens redare samt deras befäl och övriga besättning att allvarligt uppmärksamma de bestämmelser och säkerhetsföreskrifter rörande transport av kollaster, som utfärdats i 9 § 4 kapitlet förordningen angående transport å fartyg av vissa slag av gods och levande djur (455/58) och i IMCO:s "Code of Safe Practice for Solid Bulk Cargoes 1980", varav den del som gäller koltransport samt Merchant Shipping Notice No. M. 682 bifogas.

Särskild uppmärksamhet skall ägnas brand- och explosionsrisken samt självantändningsrisken hos koldamm och hos metangas som eventuellt avsköndras från lasten. Ventilation av utrymmen invid lastrummet och ytventilation av den egentliga lasten samt övriga säkerhetsåtgärder skall ombedrjas enligt givna direktiv.

Chef för sjöfartsavdelningen  
sjöfartsråd

Oso Siivonen

Sjöfartsöverinspektör

Alpo Parrila