DAFTAR PUSTAKA

https://bagoesseto.wordpress.com/2012/06/22/sedikit-tulisan-mengenai-pengangkutan-khususnya-pengangkutan-laut/

Tim Penyusun Kamus Besar Bahasa Indonesia, ***Kamus Besar Bahasa Indonesia***, Balai Pustaka, Jakarta, Edisi Ke 3, 2005.

Moleong,Lexy J.2004.*Metodologi Penelitian Kualitatif*.Bandung:Remaja Rosdakarya 2006.*Metodologi Penelitian Kualitatif*.Bandung:Remaja Rosdakarya

Tim penyusun PIP Semarang, 2012, *Penanganan dan Pengaturan Muatan.* Semarang

Martopo,A.Soegiyanto.2004.Penanganan dan Pengaturan Muatan Semarang: Politeknik Ilmu Pelayaran Semarang.

Martopo, A,2001, Penanaganan Muatan, Politeknik Ilmu Pelayaran Semarang, Semarang.

Nana Syaodih Sukmadinata, 2010, *Metode Penelitian Pendidikan*, PT. Remaja Rosdakarya, Bandung.

Nasehudin Syatori dan Gozali Nanang, 2012, *Metode Penelitian Kuantitatif*, Pustaka Setia, Bandung.

Sugiyono, 2009, *Metode Penelitian Pendidikan (Pendekatan Kuantitatif, Kualitatif, dan R&D)*, CV.Alfabeta, Bandung

Suryana, 2010, *Metodologi Penelitian Model Praktis Penelitian Kuantitatif dan kualitatif*, Universitas Pendidikan Indonesia

Suharsimi Arikunto, 2010, *Prosedur Penelitian Suatu Pendekatan Praktik*, PT. Rineka Cipta, Jakarta.

Sugiyono.2013 Metode Penelitian Kuantitatif Kualitatif dan R&D. Bandung: cv. Alvabeta

Winarno Surakhmad, 2005, *Pengantar Pengetahuan Ilmiah*, Jakarta.

HASIL WAWANCARA

Kepada : Mualim I

Nama :Jefferson James. E. L

Tempat :MV. DK 01

Tanggal :07 Maret 2015

1. Apa yang anda ketahui tentang penyebab muatan batu bara yang terbakar?
   Jawab : Sejauh yang saya tahu bahwa kebakaran batu bara tersebut lebih dikarenakan sisa ruang muat yang terlalu besar, sehingga udara di dalam ruang muat bercampur gas tambang yang terbawa oleh muatan sehingga apabila terlalu lama berada di dalam palka dapat membuat muatan menangas dan mudah terbakar yang menyebabkan timbulnya asap yang mengepul.
2. Sebagai Mualim I yang bertanggung jawab tentang muatan apa tindakan anda bila mengetahui bila muatan batu bara telah terbakar?
   Jawab : Yang harus dilakukan adalah melaporkan hal tersebut kepada Nahkoda, namun Nahkoda seringkali untuk menyerahkan keputusan kepada saya.
3. Persiapan apa saja yang anda lakukan untuk memadamkan batu bara yang terbakar di kapal MV. DK 01?
   Jawab : Untuk mempercepat proses pemadaman saya perintahkan Bosun untuk mempersiapkan semua peralatan kebakaran seperti fire hose dan peralatan lainnya untuk menyemprot muatan yang terbakar.
4. Apakah ada peralatan atau perlengkapan khusus untuk memadamkan batu bara yang terbakar di kapal MV. DK 01?
   Jawab : Peralatan yang kita gunakan biasanya *weldon pump, fire hose, nozzle,* drum bekas untuk mengisi air tawar yang dicampur dengan *foam* dan *chemical*.
5. Apakah peralatan dan perlengkapan tersebut sudah ada semua di kapal MV. DK 01?
   Jawab : Semuanya ada kecuali cairan *chemicalnya,* kita harus minta dulu kepada pihak agen atau pihak darat baru *chemical* bias didatangkan.

6. Untuk permintaan *chemical* itu sendiri membutuhkan berapa hari untuk bisa dikirim?
   Jawab : Karena keadaan *emergency* maka akan segera mungkin dikirim biasanya dalam hitungan jam sudah dikirim dari pihak agen.
7. Menurut anda bagaimana prosedur pelaksanaan bongkar muatan batu bara yang sudah terbakar agar tidak menjadi lebih banyak?
   Jawab : Kalau untuk proses bongkar biasanya saya menyuruh buruh untuk mengambil muatan batu bara yang sudah terbakar terlebih dahulu untuk mencegah meluasnya kebakaran, tapi terkadang kita juga terkendala dengan rusaknya crane kapal.
8. Kenapa bisa terjadi kerusakan crane kapal pada saat pembongkaran muatan batu bara?
   Jawab : Saya merasa karena buruh yang kerjanya ingin cepat-cepat selesai mereka mengoperasikan crane kapal dengan kurang baik sehingga wire pada crane sering melilit padahal sebelum pembongkaran muatan kita sudah melakukan perawatan.
9. Bagaimana menurut anda untuk mencegah sekecil mungkin agar dikemudian hari tidak terjadi kebakaran muatan batu bara di kapal MV. DK 01?
   Jawab : Kita bisa melakukan pengecekan dan perawatan muatan pada muatan sudah dimuat dan sebelum menuju pelabuhan bongkar kita bisa laporan ke kantor agar pada saat tiba kita langsung bisa masuk pelabuhan untuk melakukan bongkar muatan.

HASIL WAWANCARA

Kepada : Bosun

Nama : Abu Siri

Tempat : MV. DK 01

Tanggal : 08 Maret 2015

1. Menurut anda apa yang menyebabkan terjadinya terbakarnya muatan di kapal MV. DK 01?

Jawab :Menurut saya kebakaran terjadi disebabkan karena ventilasi ruang muat yang tidak difungsikan dengan baik dan mualim I tidak pernah memerintah saya untuk mengatur ventilasi di setiap palka, saya hanya merawat ventilasi tersebut.

2. Apa yang anda lakukan bila terjadi muatan terbakar di kapal MV. DK 01?
   Jawab : Pastinya saya akan mematuhi apa yang diperintahkan oleh Mualim I.
3. Apa saja yang digunakan untuk memadamkan muatan batu bara yang terbakar di kapal MV. DK 01?
   Jawab : , Mualim I seringkali memadamkan api menggunakan air laut yang dialirkan melalui *fire hose* karena lebih cepat dan mudah walaupun hanya sementara.
4. Siapakah yang bertugas memadamkan muatan yang terbakar di kapal MV. DK 01?
   Jawab : Kami crew kapal yang menangani sendiri yang dikomandoi oleh Mualim I.
5. Menurut anda apakah alat-alat yang digunakan untuk memadamkan muatan batu bara yang terbakar di kapal MV. DK 01 sudah memadai?
   Jawab : Menurut saya alat-alat yang ada sudah cukup memadai tapi masih terdapat beberapa hal yang kurang.
6. Ketika anda menemukan kerusakan pada alat bongkar muat apa yang akan anda lakukan?
   Jawab : Saya akan melihatnya terlebih dahulu dan kemudian akan melaporkan kepada Mualim I sebagai pimpinan kerja saya.
7. Menurut Anda apakah perlu mengadakan pengawasan selama melakukan bongkar muatan batu bara yang terbakar?
   Jawab : Pengawasan sangat diperlukan karena setau saya batu bara yang sudah terbakar tidak akan bisa langsung padam dengan begitu saja.

PT. KARYA SUMBER ENERGY

SHIP'S PARTICULAR

VESSEL'S NAME	: MV. DK 01
CALL SIGN	: P O Z O
NATIONALITY	: INDONESIA
PORT OF REGISTRY	: TG. PRIOK
TYPE OF VESSEL	: BULK CARRIER
IMO NUMBER	: 9011193
OFFICIAL NO.	: 23670-97-C
CLASS NO.	: 902742
GROSS TONNAGE	: 39,219 TONS
NETTO TONNAGE	: 16,710 TONS
CLASIFICATION	: RI - BKI
BUILDER	: KOYO DOCKYARD CO., LTD
MMSI NO.	: 525021258
INMARSAT-C NO.	: 452502595
PHONE/INMARSAT-F	: 763993629 / 763993630
E-MAIL ADDRESS	: suha@indoshipping.com
DATE OF KEEL LAID/LAUNCH	: 8th FEB 1991 / 26th AUG 1991
OWNER	: PT. KYK - KYK BUILDING
	JL CIDENG BARAT No. 32-33 GAMBIR, JAKARTA PUSAT 10150
MANAGEMENT COMPANY	: PT. KARYA SUMBER ENERGY
	JL KALI BESAR BARAT No. 37, JAKARTA BARAT 11230
	TLP: +6221-691 0382 - FAX: +6221-6916268 - PIC : SUHAFRINAL
IMO COMPANY	: 5483348

LENGTH OVERALL	199.2 mtr	BREADTH MOULDED	32.00 mtr
LENGTH BETWEEN PERPENDICULARS	192 mtr	DEPTH MOULDED	22.65 mtr
HEIGHT FROM KEEL TO MAIN MAST TOP	50.9 mtr	LIGHT SHIP	9,730 MT
FW ALLOWANCE	249 mm	TPC (SUMMER DRAFT)	57.00 MT
NUMBER OF CARGO HOLD	6	HISTORICAL CONSTANT	190-230 MT

LOAD LINE	FREE BOARD	DRAUGHT	DEADWEIGHT	DISPLACEMENT
TROPICAL FW	8.171 mtr	11.496 mtr	48,265 MT	57,995 MT
FRESH WATER	8.400 mtr	11.267 mtr	46,999 MT	56,729 MT
TROPICAL	8.421 mtr	11.246 mtr	48,298 MT	58,028 MT
SUMMER	8.650 mtr	11.017 mtr	47,002 MT	56,028 MT
WINTER	8.879 mtr	10.788 mtr	45,709 MT	56,439 MT
W.N.A	8.879 mtr	10.788 mtr	45,709 MT	55,439 MT

DECK CRANE	: 3 SETS, 300 T/H (1 CRANE) - SPEED: 14.5 KN X (8.5-25) Mr
GRAB	. 3 SETS, 15 CBM
CAPACITY OF CARGO HOLD	: CH1:16,680.98 m3 - CH2:17,752.98 m3 - CH3:16,705.54 m3
	CH4:13,626.95 m3 - CH5:16,629.14 m3 - CH6:18,157.13 m3
MAIN ENGINE	: AKASAKA - MITSUBISHI, 6UEC52LS x 1 SET
	MCR-10,200 PS x 115 Rpm - NOR-8,670 PS x 109 Rpm (85%MCR)
GENERATOR	: 3SETS-4CYCLE DIESEL ENG.6DL-22-1050x900Rpm-710KWx900Rpm,1015KVA
SERVICE SPEED	: 14 KNOTS
NUMBER OF CREW	: 24 PERSONS
NAME OF MASTER	: **CAPT. SOHEMAN S.**

IMO 9011193 Master KYK LINE

CREW LIST

MV. DK 01

POZO

TG. PRIOK

INDONESIA

No.	Name	Rank	Place&date	Nationality	Sex	Seaman book		Passport	
						No	Exp.date	No	Exp.date
1	Soleman S	Master	Kuningan 12.07.1958	Indonesia	M	X078286	23.09.2017	A1232128	13.09.2016
2	Jefferson James E.L	C/O	Jakarta 27.05.1957	Indonesia	M	Y008069	14.12.2015	A9594462	27.11.2019
3	M. Hanif Nugraha	2/O	Cirebon 20.08.1990	Indonesia	M	X026919	09.05.2017	B 0382780	13.02.2020
4	Zaenal Walad Huseni	3/O	Karawang 16.07.1982	Indonesia	M	D 030637	11.12.2017	N/A	N/A
5	Munsi Yasmil	C/E	Jakarta 11.02.1960	Indonesia	M	X088491	17.01.2016	N/A	N/A
6	Alimi	2/E	Tg. Karang 20.08.1957	Indonesia	M	B 034149	16.01.2016	A7540082	03.03.2019
7	Mohammad Selamat	3/E	Jakarta 23.08.1955	Indonesia	M	D 048931	16.02.2018	N/A	N/A
8	Sony Nur Alif	4/E	Temanggung 22.01.1989	Indonesia	M	X026851	27.04.2017	V282517	15.06.2015
9	Leo Charles Lasut	Elect	Jakarta 15.09.1957	Indonesia	M	A000097	21.12.2016	A7378307	07.02.2019
10	Abu Siri	Bosun	Madura 23.07.1959	Indonesia	M	C 041450	25.02.2017	A9500034	21.11.2019
11	Joko Jawanto	AB	Boyolali 10.05.1970	Indonesia	M	V044366	08.10.2015	A6591258	18.10.2018
12	Riyadi	AB	Pemalang 16.05.1965	Indonesia	M	A005585	12.01.2017	B 0190502	22.12.2019
13	Moh. Suparno	AB	Purwonjo 18.03.1976	Indonesia	M	X004812	14.12.2016	A6164276	07.11.2018
14	Frengki Hotman Hasiholan	Engine Foreman	Jakarta 25.05.1974	Indonesia	M	B 045332	06.03.2016	N/A	N/A
15	Mochammad Arna	Fitter	Surabaya 25.05.1962	Indonesia	M	D 059610	20.03.2018	N/A	N/A
16	Eko Setiyo Widodo	Oiler	Magelang 02.01.1988	Indonesia	M	W 069642	13.10.2016	A2265211	28.02.2017
17	Rukmana bin Karyo	Oiler	Kuningan 03.03.1960	Indonesia	M	A063303	09.08.2017	A3581512	30.08.2017
18	Deni Mariandana	OS	Selayo 05.05.1992	Indonesia	M	D 006966	22.09.2017	A9247652	27.10.2019
19	Fajar Irawan	Cook	Bekasi 18.02.1982	Indonesia	M	C 0583339	08.06.2017	A2964725	06.06.2017
20	Ana Novella Gloriosa	D/Cadet	Blora 13.11.1993	Indonesia	M	C 062068	23.06.2017	A8064121	24.04.2019
21	Arif Saputro	D/Cadet	Banyumas 30.12.1992	Indonesia	M	C 061857	03.06.2017	A7904331	21.04.2019
22	Nurul Ikram	D/Cadet	Ujung Pandang 16.05.1994	Indonesia	M	C 088615	01.09.2017	A7993618	09.06.2019
23	Nur Roji	E/Cadet	Semarang 05.11.1993	Indonesia	M	C 062102	02.07.2017	A8190010	21.05.2019
24	Danny Arif Setiawan	E/Cadet	Semarang 24.12.1993	Indonesia	M	C 062019	17.06.2017	A8190027	21.05.2019

Acknowledge by,

Capt. Soheman S
Master MV. DK 01

CHECK RECORD FOR LADEN COAL

M/V : DK - 01 VOY: 005 L

LOAD PORT: TABONEO, BANJARMASIN DISCH PORT: CILACAP

Date	Time	Check items	HOLD								
			No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9
22-Feb-14	1700	TEMP (℃)	35	36	38	38	36	37			
		CH_4 (%)									
Temp(℃)		CO (ppm)									
Air	Sea	O_2 (%)	20.9	20.9	20.9	20.9	20.9	20.9			
28	27	***pH***									
		Remark									
Checked By :	C/Officer	* Report to Captain immediately under following conditions, If TEMP exceed 55(℃) If CH4 exceed 5% If the levels of CO are higher than 30 ppm (In this case, the frequency of measurement should be increased at least twice a day. If the levels exeed 50 ppm, superintendent in charge of the vessel should be notified.)									

Date	Time	Check items	HOLD								
			No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9
23-Feb-14	1700	TEMP (℃)	36	37	40	40	36	38			
		CH_4 (%)									
Temp(℃)		CO (ppm)									
Air	Sea	O_2 (%)	20.9	20.9	20.9	20.9	20.9	20.9			
28	27	***pH***									
		Remark									
Checked By :	C/Officer	* Report to Captain immediately under following conditions, If TEMP exceed 55(℃) If CH4 exceed 5% If the levels of CO are higher than 30 ppm (In this case, the frequency of measurement should be increased at least twice a day. If the levels exeed 50 ppm, superintendent in charge of the vessel should be notified.)									

Date	Time	Check items	HOLD								
			No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9
24-Feb-14	1700	TEMP (℃)	37	37	42	41	37	40			
		CH_4 (%)									
Temp(℃)		CO (ppm)									
Air	Sea	O_2 (%)	20.9	20.9	20.9	20.9	20.9	20.9			
28	28	***pH***									
		Remark									
Checked By :	C/Officer	* Report to Captain immediately under following conditions, If TEMP exceed 55(℃) If CH4 exceed 5% If the levels of CO are higher than 30 ppm (In this case, the frequency of measurement should be increased at least twice a day. If the levels exeed 50 ppm, superintendent in charge of the vessel should be notified.)									

Date	Time	Check items	HOLD								
			No.1	No.2	No.3	No.4	No.5	No.6	No.7	No.8	No.9
25-Feb-14	1700	TEMP (℃)	38	39	43	41	38	42			
		CH_4 (%)									
Temp(℃)		CO (ppm)									
Air	Sea	O_2 (%)	20.9	20.9	20.9	20.9	20.9	20.9			
27	27	***pH***									
		Remark									
Checked By :	C/Officer	* Report to Captain immediately under following conditions, If TEMP exceed 55(℃) If CH4 exceed 5% If the levels of CO are higher than 30 ppm (In this case, the frequency of measurement should be increased at least twice a day. If the levels exeed 50 ppm, superintendent in charge of the vessel should be notified.)									

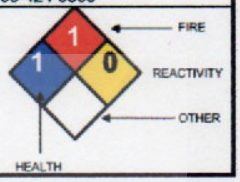
MASTER: Capt. PURWANTO

M.V. DK 01 KYK MASTER

MATERIAL SAFETY DATA SHEET

BITUMINOUS COAL

Content Last Revised 1/94; 10/12/00; 07/26/02; 06/05
4 pages.

SECTION 1 - MATERIAL IDENTIFICATION		24 HOUR EMERGENCY INFORMATION
PRODUCT / CHEMICAL NAME:	BITUMINOUS COAL	Sprague: 603-431-1000 Chemtrec: 800-424-9300
PRODUCT / CHEMICAL SYNONYMS:	WASHED COAL, CLEAN COAL, SOFT COAL	HMIS / NFPA HAZARD RATING 4=EXTREME 3=SERIOUS 2=MODERATE 1=SLIGHT 0=MINIMAL
CHEMICAL FAMILY / FORMULA:	ALIPHATIC AND AROMATIC HYDROCARBONS / VARIABLE	
MATERIAL USE OR OCCURRENCE:	-	

SECTION 2 – INGREDIENTS & RECOMMENDED OCCUPATIONAL EXPOSURE LIMITS			
COMPOSITION % WEIGHT	AS RECEIVED	OSHA PEL	ACGIH TLV
MOISTURE	(Typical) 1.0 – 10.0	None established.	None established.
ASH	4.0-20.0	15 mg/M³ as nuisance dust less than 1% quartz	10 mg/M³ as nuisance dust less than 1% quartz
TOTAL SULFUR	0.5-2.2	5.0 ppm as SO_2	2.00 ppm as SO_2
FIXED CARBON	50.0-72.0	None established None established	
VOLATILE MATTER* INCLUDING	17.0-37.0		
ELEMENTAL AND COMPOUNDS OF:			
HYDROGEN	4.8-5.3	None established	None established
NITROGEN	1.2-1.6	None established	None established
CHLORINE	.08-.19	1.0 ppm	1.0 ppm
COAL DUST		2.4 mg/ M³ respirable fraction, < 5% SiO_2 10 mg/ M³ > 5% SiO_2 % SiO_{2+2}	2 mg/M³ respirable fraction, < 5% SiO_2 10 mg/ M³ > 5% SiO_2 % SiO_{2+2}

SECTION 3 - PHYSICAL DATA			
IGNITION TEMPERATURE:	260°-365°F	% VOLATILITY BY VOLUME:	Negligible
MELTING POINT:	750° F	VAPOR DENSITY (AIR = 1):	N/A
AVERAGE SPECIFIC GRAVITY (H2O = 1):	1.43	SOLUBILITY IN WATER:	Non-soluble
HETEROGENOUS - CARBONACEOUS			
APPEARANCE & ODOR: Irregular, rectangular-shaped chunks or particles, dense, grayish-black to black color with slight, minimal dank odor.			

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: When exposed to flame of temperatures in excess of 260° F.

EXTINGUISHING MEDIUM: Foam, carbon dioxide, dry chemical, halon, and water fog.

SPECIAL FIRE FIGHTING PROCEDURES: Use washdown and spread out method.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Susceptible to spontaneous combustion. Highly combustible and/or explosive when in dust or powder form.

SECTION 5 - HEALTH DATA

TOXICOLOGICAL TEST DATA: Coal may liberate various polycyclic aromatic hydrocarbons (PAH's) upon thermal decomposition. There is no clear evidence that coal is carcinogenic to man or experimental animals because of their polycyclic aromatic hydrocarbon content. However, there is evidence that these PAH's may play an active role in the generation of lung cancer seen in cigarette smokers or tar-roofing workers.

Coal may release small quantities of methane gas over a period of time. Progression of tuberculosis is greatly increased in pneumoconiosis but susceptibility is apparently not increased.

	ACUTE HEALTH EFFECTS	CHRONIC HEALTH EFFECTS
INHALATION	The principal health hazard associated with coal occurs during its mining and transport. Coal workers' pneumoconiosis (CWP) can occur in miners after as little as 15 years of excessive inhalation of respirable coalmine dust. Respirable quartz particles and free silica may be co-implicated. Coal dust is deposited in the lungs where its site of action is the lung parenchyma, lymph nodes and hila. The severity of the disease is directly related to the amount of coal dust in the lungs. In the simple stages, the disease is detectable by x-ray as round, irregular "macules"of 1-5 mm. This stage typically does not change lung function or shorten life.	The chronic stage of CWP, however, involves massive pulmonary fibrosis that does impair pulmonary function and shorten life. Chronic Bronchitis (lung inflammation, coughing attacks, difficult breathing, etc.) and emphysema can result from excessive coal dust inhalation. Rheumatoid arthritis can be exacerbated by pneumonias leading to rapidly developing lung damage (Caplan's Syndrome).
INGESTION	May cause irritation.	No data available
SKIN CONTACT	May cause irritation.	No data available.
EYE CONTACT	Irritation of the eye.	No data available

FIRST AID PROCEDURES

First aid procedures generally don't apply to this product. Maintain exposure to coal dust according to applicable regulatory standards.

MATERIAL SAFETY DATA SHEET

BITUMINOUS COAL

Content Last Revised 1/94: 10/12/00: 07/26/02; 06/05 4 pages

SECTION 6 - REACTIVITY DATA	
STABILITY:	Stable if properly stored to inhibit oxidation.
HAZARDOUS POLYMERIZATION:	Hazardous polymerization has not been known to occur under normal temperatures and pressures. However, coal dust may react slowly with oxygen at room temperature. Heat accelerates the process, which could lead to spontaneous ignition in piles of coal dust.
CONDITIONS TO AVOID:	1. *Allowing coal to stand in water.* 2. Storing coal on loose or porous ground. 3. Piling coal around upright steel or wooden posts, crane supports, underground drains, steam or hot water lines or areas where there is refuse such as wood, straw, growing vegetation or other organic material. 4. Storage in closed hampers, bins, receptacles, etc. without positive ventilation.
INCOMPATIBLES:	
TYPICAL DECOMPOSITION PRODUCTS:	May liberate hydrogen, methane, carbon monoxide, oxides of sulfur and hydrogen, coal tar pitch volatiles upon thermal decomposition.

SECTION 7 - SPECIAL PROTECTION	
RESPIRATORY PROTECTION:	Use with adequate ventilation.
VENTILATION LOCAL EXHAUST:	MSHA/NIOSH approved dust respirator. Appropriate respirator depends upon type and magnitude of exposure.
MECHANICAL (General):	Recommended for use in enclosed or semi-enclosed work areas.
EYE PROTECTION:	Splash goggles or shields with safety glasses
PROTECTIVE GLOVES:	Neoprene, PVC
OTHER PROTECTIVE CLOTHING OR EQUIPMENT:	Employee must wear appropriate impervious clothing and equipment to prevent repeated or prolonged skin contact with this substance.

SECTION 8 - SPECIAL PRECAUTIONS	
PRECAUTIONS FOR SAFE HANDLING & STORAGE:	Do not permit accumulation of dust or spillage. See also conditions to avoid, above.
SPILL AND LEAK PROCEDURES:	Cleanup by excavation, vacuum collection or washdown.
WASTE DISPOSAL METHOD:	1. Incinerate in combustion device or system. 2. Dispose in approved, regulated landfill.

SECTION 9 - DOT HAZARDOUS MATERIAL INFORMATION		
PROPER SHIPPING NAME: BITUMINOUS COAL		REQUIRED PLACARDING: NONE
HAZARD CLASS: Non-Hazardous	PACKING GROUP (P.G.): III	N.A/U.N. NUMBER: NONE

MATERIAL SAFETY DATA SHEET

BITUMINOUS COAL

Content Last Revised 1/94: 10/12/00: 07/26/02; 06/05 4 pages

SECTION 10 - EPA SARA TITLE III INFORMATION			
SECTION 311/312	ACUTE: N/A	CHRONIC: N/A	
HAZARD CLASSIFICATION: Non-Hazardous	FIRE: N/A	PRESSURE: N/A	REACTIVE: N/A

SECTION 11 – REMARKS

This material contains fused polycyclic hydrocarbons. The OSHA interpretation of coal tar pitch volatiles (Section 1910, 1002) is as follows: "Coal tar pitch volatiles include the fused polycyclic hydrocarbons which volatize from the distillation residues of coal, petroleum, wood, and other organic matter." The OSHA PEL and ACGIH TLV for coal tar pitch volatiles is 0.2 mg/M³ (basis one soluble fraction).

SECTION 12 - ADDITIONAL REGULATORY DATA

REPORTABLE COMPONENTS: FEDERAL EPA	%	SARA RQ	CERCLA RCRA RQ	NO.
BITUMINOUS COAL	100	----	----	----

NOTE: OSHA Regulations 29 CFR 1910.1200 (Hazard Communication) do not consider coal as a "hazardous material" and a Material Safety Data Sheet (MSDS) is not required. The information contained herein is based on data available at this time and is believed to be accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Since information contained herein may be applied under conditions beyond our control and with which we may be unfamiliar, no responsibility is assumed for the results of its use. The person receiving this information shall make his own determination of the suitability of the material for his particular purpose.

KEMENTERIAN PERHUBUNGAN
BADAN PENGEMBANGAN SDM PERHUBUNGAN
BHINNEKA EKA BHAKTI
SAMUDRA
POLITEKNIK ILMU PELAYARAN

PT. KARYA SUMBER ENERGY

CARGO DAMAGE REPORT

TO
SHIP :
MV. DK 01

P.T KARYA SUMBER ENERGY
PORT TANJUNG INTAN
CILACAP
DATE : 05 MAR 2015

YOU ARE HEREBY NOTIFIED THAT I HOLD YOU RESPONSIBLE FOR THE BELOW MENTIONED DAMAGE WHICH OCCURED ON YOUR ABOVE SHIP AS A RESULT OF YOUR CARGO MANAGEMENT. THE DAMAGE CAN'T BE REPAIRED RIGHT NOW, BUT THIS CAN BE STIFF LESSONS FOR NEXT VOYAGE FOR MORE PAY ATTENTION TO CARGO MANAGEMENT ABOVE YOUR SHIP TO KEEP THE QUALITY OF THE CARGO. AS A CAPTAIN YOU HAVE FULL OF RESPONSIBILITY TO ALL ON BOARD THE SHIP.

DATE AND TIME OF DAMAGE : 05 MARCH 2015 / 11:00 HRS

DESCRIPTION OF DAMAGE : "THE CARGO HAS FIRE"

CAUSE OF DAMAGE :

" DUE TO THE CARGO IS TOO LONG OVERHEATING IN HATCH"

WITNESS TO ABOVE

PLANNER

MR. SUHAFRINA

KARYA SUMBER ENERGY

THE CAUSE AND EXTENT OF DAMAGE ARE CORRECTLY STATED ABOVE, AND LIABILITY ACKNOWLEDGE

MV. DK 01 KYK MASTER

TO

Gambar 4.2. : Muatan batu bara yang telah terbakar di dalam palka

Gambar 4.3. : Ventilasi ruang muat di setiap palka

Gambar 4.4 : Pemadaman kebakaran batu bara oleh crew kapal MV. DK 01

Gambar 4.5. : Pemasangan*grab*pada*crane*kapal MV. DK 01

Gambar 4.6. : Muatan batubara yang mulai terbakar di MV. DK 01

DAFTAR RIWAYAT HIDUP

Nama : Arva Novella Ghoibunka

Tempat/Tanggal lahir : Blora, 13 November 1993

Jenis kelamin : Laki-Laki

Agama : Islam

NIT : 49124468 N

Nama Orang Tua

Nama Ayah : Lasmin

Nama Ibu : Kasini

Alamat : Jl. Gunung Lawu Lr.I No.52 RT.005 RW.003
Kel.Tempelan Kec.Blora Kab.Blora

Riwayat Pendidikan

1. SDNegeri 1 Karangjati,Lulus Tahun 2005
2. SMP Negeri 5 Blora,Lulus Tahun2008
3. SMA Negeri 2 Blora,Lulus Tahun 2011
4. Politeknik Ilmu Pelayaran Semarang

Pengalaman Praktek Laut

1. Perusahaan Pelayaran : PT. Karya Sumber Energy
2. Alamat : Jl. Kali Besar Barat No. 37 Jakarta Barat
3. Nama Kapal : MV. DK 01
4. Masa Layar : 27 Oktober 2014 – 25 November 2015