

ภาคผนวก ค-10

รายงานการพัฒนาความยั่งยืนประจำปี



บริษัท บางจาก คอร์ปอเรชั่น จำกัด (มหาชน)

บริษัท บางจาก คอร์ปอเรชั่น จำกัด (มหาชน)

แบบเรียนวิชา
ภาษาไทย ชั้นประถมศึกษาปีที่ 5

สารบัญ

ภาพรวมบริษัท

ปฏิบัติการกำกับดูแลและตรวจสอบ

สารจากประธานเจ้าหน้าที่บริหารและผู้ถือหุ้นบริษัทมหาชนและกรรมการผู้จัดการใหญ่	6	บริษัทมหาชนจำกัด	38
สรุปผลการดำเนินงานหลักในปี 2567	8	การดำเนินงานของบริษัทมหาชนจำกัด	41
รางวัลและความสำเร็จด้านความยั่งยืนปี 2567	10	การดำเนินงานด้านสังคมและสิ่งแวดล้อมของบริษัทมหาชนจำกัด	49
ภาพรวมธุรกิจ	12	การกำกับดูแลกิจการที่ดี และการต่อต้านการทุจริต	53
สิ่งที่ยุทธศาสตร์กำหนดไว้	14	การดำเนินงานด้านความยั่งยืน	56
บรรษัทภิบาลและความยั่งยืน	16	การดำเนินงานด้านความยั่งยืน	66
บรรษัทภิบาลและสิ่งแวดล้อม	20	การดำเนินงานด้านความยั่งยืน	76
การดำเนินงานด้านสังคมและสิ่งแวดล้อม	30	การดำเนินงานด้านความยั่งยืน	81

บริษัทมหาชน

การดำเนินงานและการจัดการทรัพยากรมนุษย์และทรัพยากรทางการเงิน	84	การดำเนินงานและการจัดการทรัพยากรมนุษย์และทรัพยากรทางการเงิน	154
การดำเนินงานด้านสิ่งแวดล้อม	93	การดำเนินงานด้านสิ่งแวดล้อม	158
การดำเนินงานด้านสังคมและสิ่งแวดล้อม	98	การดำเนินงานด้านสังคมและสิ่งแวดล้อม	179
การดำเนินงานด้านความยั่งยืน	100	การดำเนินงานด้านความยั่งยืน	192
การดำเนินงานด้านความยั่งยืน	104	การดำเนินงานด้านความยั่งยืน	194
การดำเนินงานด้านความยั่งยืน	106	การดำเนินงานด้านความยั่งยืน	206
การดำเนินงานด้านความยั่งยืน	108	การดำเนินงานด้านความยั่งยืน	207
การดำเนินงานด้านความยั่งยืน	111	การดำเนินงานด้านความยั่งยืน	207

บริษัทมหาชน

ความยั่งยืนและธุรกิจหลัก	114	ความยั่งยืนและธุรกิจหลัก	120
ความยั่งยืนและธุรกิจหลัก	120	ความยั่งยืนและธุรกิจหลัก	123
ความยั่งยืนและธุรกิจหลัก	123	ความยั่งยืนและธุรกิจหลัก	136
ความยั่งยืนและธุรกิจหลัก	136	ความยั่งยืนและธุรกิจหลัก	146

ฉบับนี้จัดทำขึ้นโดย บริษัทมหาชน

ฉบับนี้จัดทำขึ้นโดย บริษัทมหาชน

3

ภาพรวมบริษัท

สาธารณูปโภคพื้นฐานที่ใช้การลงมือจัดทำจาก และการจัดการใหญ่	6
สรุปผลการดำเนินงานสำคัญปี 2567	8
รางวัลและความสำเร็จด้านความยั่งยืนปี 2567	10
ภาพรวมธุรกิจ	12
หัวใจสู่คนทั้งธุรกิจของบมจ.ททท	14
บทบาท และความยั่งยืน	16
บรรษัทฯ และผู้มีส่วนได้เสีย	20
การกำหนดประเด็นสำคัญด้านความยั่งยืน	30



 วัตถุประสงค์ของแผน
และกลยุทธ์


 โครงสร้างองค์กร


 หน่วยงาน

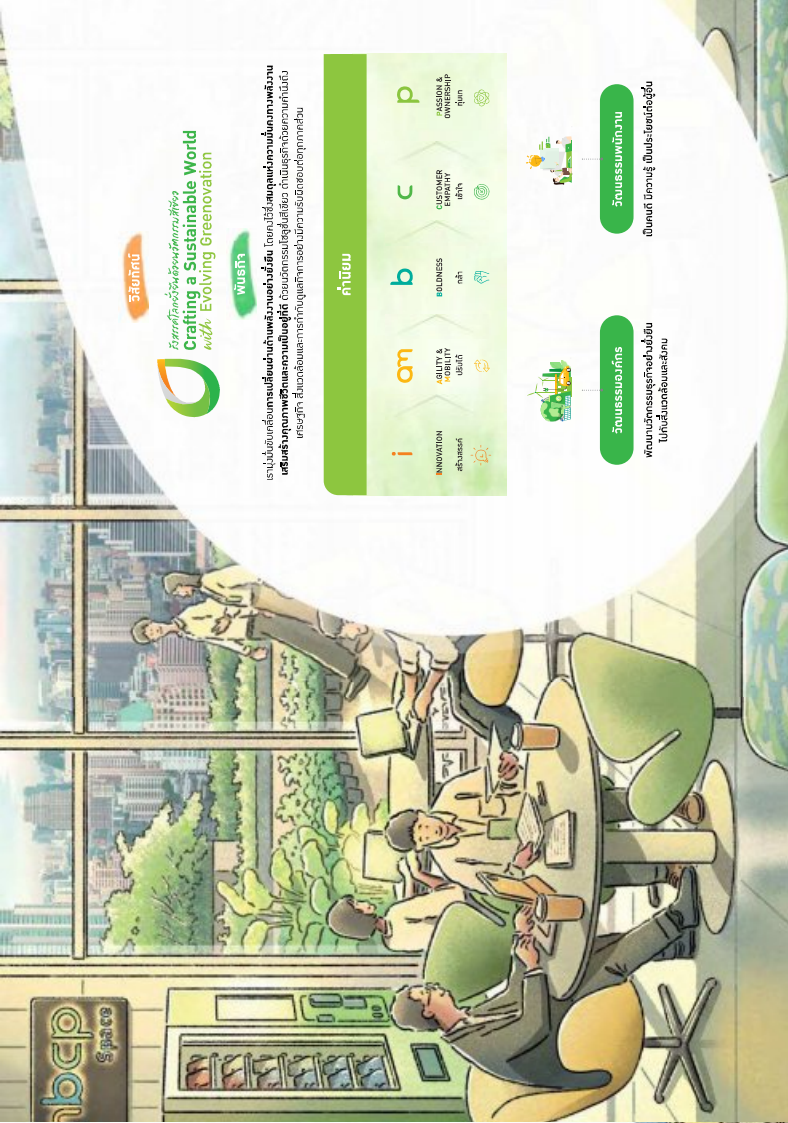

 ผลิตภัณฑ์


 การขนส่ง


 การผลิต

หน้า ๖ จาก ๖๖

หน้า ๖ จาก ๖๖



สรุปผลการดำเนินงาน
ด้านการกำกับดูแลและเศรษฐกิจ

Article	Year	2014	2015	2016	2017
Validation of the questionnaire	Proton	194,670.00	150,017.26	167,455.62	169,447.29
Validation of the questionnaire	Proton	250,040.00	193,510.00	168,032.00	169,447.29
Validation of the questionnaire	Proton	99,414.72	143,510.00	119,495.00	169,447.29
Validation of the questionnaire	Proton	76,010.00	46,710.00	41,680.00	169,447.29
Validation of the questionnaire	Proton	175,544.00	179,710.00	162,140.00	169,447.29
Validation of the questionnaire	Proton	2,789.70	2,779.74	3,347.09	3,351.17
Validation of the questionnaire	Proton	32,045.00	30,944.90	17,124.64	34,848.00
Validation of the questionnaire	Proton	27.0	32.0	37.0	41.0
Validation of the questionnaire	Proton	27.0	29.0	40.0	32.0
Validation of the questionnaire	Proton	27.0	29.0	40.0	32.0
Validation of the questionnaire	Proton	247.00	254.00	226.00	247.00
Validation of the questionnaire	Proton	200	275	130	200
Validation of the questionnaire	Proton	457.261	8,302	8,646.5	13,529.261

1. Derivation of the \mathcal{L}_2 norm of the error signal.

[illegible]

การทบทวนความเสียหายและมาตรการบรรเทาผลกระทบด้านสิทธิมนุษยชน

[illegible]

ความเลื่องเรื่อง : การได้เข้าข้างถิ่นและการจัดการที่เต็มไปด้วยกฎหมายและไปกระทบกับวิถีชีวิตของชุมชน
ทั้งด้านทรัพยากรและวัฒนธรรม

การก่อสร้างสถานีบริการขนส่ง : บริษัท มีการพัฒนาสถานีบริการขนส่งทางบกเพิ่มขึ้นในทั้งทาง เรือ 40-50 แห่ง
 อาณาบริเวณไปที่จะจะขยายการครอบคลุมการดำเนินงานเพิ่มเติม ความปลอดภัย และคุณภาพของชุมชนได้เพื่อที่บริการ
 เพื่อให้นักขบวนรถบริการพิเศษสามารถอำนวยความสะดวกแก่ผู้โดยสารที่มีความต้องการพิเศษในการเดินทาง
 ทั้งที่ นักบริการรถบริการ และผู้ประกอบการ ดีมาก

- การวางระบบการให้บริการประชาชนอย่างมีประสิทธิภาพ
- การเสนอแนะการพัฒนาระบบและเชื่อมโยงการให้บริการประชาชน
- การสำรวจความคิดเห็นประชาชน
- การประชาสัมพันธ์ข้อมูลข่าวสาร ที่เกี่ยวข้องด้านกฎหมายคดีต่าง ๆ

การพัฒนาธุรกิจใหม่ การจัดการทรัพยากรธรรมชาติและสิ่งแวดล้อม (Environmental Impact Assessment)

วิทยาลัยอาชีวศึกษา พร้อมการสนับสนุน คุณค่าการใช้ชีวิตของมนุษย์ คุณค่าของการพัฒนาชุมชน การสร้างค่านิยมการอนุรักษ์ วัฒนธรรมชุมชน รวมทั้งการพัฒนาระบบเศรษฐกิจชุมชนด้วย และจัดกิจกรรมพัฒนาชุมชน (ป.น.) รวมถึงการรณรงค์ทางวิทยุหรือใบปลิวประชาสัมพันธ์ต่างๆ

นอกจากนี้ ยังมีการพบความเชื่อมโยงและมาตรการบรรเทาผลกระทบด้านสิ่งแวดล้อมอื่นๆ เช่น

- สหกรรณฯ จะมุ่งเน้นการพัฒนา และยกระดับการทำงานไปอย่างค่อยเป็นค่อยไป โดยเน้นการพัฒนาคนเป็นหลัก
- ความร่วมมือกับภาคีที่เกี่ยวข้อง กรมอุตุนิยมวิทยา สหกรณ์การเกษตร เป็นต้น
- ความปลอดภัยในการดำเนินงาน การลดอุบัติเหตุ ความเสี่ยงในการให้บริการ และการพัฒนาพื้นที่โดยรอบ
- ประสิทธิภาพ หรือขีดความสามารถ
- ความโปร่งใสและการลดความเหลื่อมล้ำในการให้บริการ



มหาวิทยาลัยราชภัฏวไลยอลงกรณ์



ข้อพิพาทและการร้องเรียน

ไม่มีข้อร้องเรียนของเจ้าหน้าที่ที่เกี่ยวข้องกับสิทธิมนุษยชนจาก
การดำเนินงานของสำนักงานจัดตั้งขึ้นใหม่เกี่ยวกับกิจกรรมการเปิด
ดำเนินการด้านสิทธิมนุษยชน ขบวนการปฏิรูป การละเมิดสิทธิของ
พลเรือนและพลเมือง การฟ้องคดี การละเมิดสิทธิของ
ประชาชน (พลเรือน) คือ คนที่เมือง การละเมิดสิทธิของ
ประชาชน (พลเรือน) คือ คนที่เมือง การละเมิดสิทธิของ
พลเรือนและพลเมือง การฟ้องคดี การละเมิดสิทธิของ
พลเรือนและพลเมือง การฟ้องคดี การละเมิดสิทธิของ

- การขอสินเชื่อในรูปแบบของตัวเงินและไม่ใช่ตัวเงิน
- การขอสินเชื่อด้านการเงินในการให้บริการที่เกี่ยวข้อง
- การดำเนินการตามความเสียหายและป้องกันมิให้เกิดซ้ำ

การร้องเรียนและแจ้งเบาะแส

[illegible][illegible]

ORI STANDARD/ OTHER SOURCE	DISCLOSURE	Location	REQUIREMENT (S) OMITTED	OMISSION REASON	EXPLANATION	GRI SECTOR STANDARD REF. NO.
Employment Practices						
GRI 3: Material Topics 2021	3-1 Management of material topics	136-145				11.01.1, 11.11.1
GRI 406: Forced or Compulsory Labor 2016	402-1 New employee hires and employee turnover	142				11.01.2
GRI 401: Employment 2016	402-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	147				11.01.3
GRI 403: Material Topics 2021	402-3 Minimum wage	147				11.01.4, 11.11.3
GRI 402: Labor Management Relations 2016	402-4 Minimum notice periods regarding operational changes	147				11.01.4, 11.11.3
GRI 404: Training and Education 2016	402-5 Programs to improve employee skills and to train on safety and health	148-149				11.01.4, 11.11.4
GRI 405: Non-discrimination 2016	402-6 Programs to improve employee skills and to train on safety and health	148-149				11.01.7
Non-discrimination and equal opportunity						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
GRI 402: Market Presence 2016	402-1 Proportion of senior management hired from the local community	151				11.01.2
GRI 406: Diversity and Equal Opportunity 2016	402-2 Diversity of governance bodies and employees	151-152				11.01.5
GRI 405: Non-discrimination 2016	402-3 Ratio of basic salary and remuneration of women to men	151				11.01.6
GRI 406: Non-discrimination 2016	402-4 Incidents of discrimination and corrective actions taken	151				11.01.7
Forced labor and modern slavery						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
GRI 409: Forced or Compulsory Labor 2016	402-5 Operations and suppliers at significant risk for incidents of forced or compulsory labor	146-151				11.01.2
Freedom of association and collective bargaining						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
GRI 407: Freedom of Association and Collective Bargaining 2016	402-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	146-151				11.01.2
GRI 3: Material Topics 2021	3-1 Management of material topics	123-135				11.01.1
GRI 413: Local Communities 2016	412-1 Operations with local community engagement, impact assessments, and development programs	123-135				11.01.2
GRI 413: Local Communities 2016	412-2 Operations with significant actual and potential negative impacts on local communities	123-135				11.01.3
GRI 3: Material Topics 2021	3-1 Management of material topics	123-135				11.01.4
Land and Resource Rights						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
GRI 412: Human Rights Assessment 2016	412-1 Human Rights Assessment	146-151				11.01.2

ORI STANDARD/ OTHER SOURCE	DISCLOSURE	Location	REQUIREMENT (S) OMITTED	OMISSION REASON	EXPLANATION	GRI SECTOR STANDARD REF. NO.
Rights of indigenous peoples						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
GRI 414: Rights of Indigenous Peoples 2016	412-1 Incidents of violations involving rights of indigenous peoples	146-151				11.01.2
GRI 414: Rights of Indigenous Peoples 2016	412-2 Operations with significant actual and potential negative impacts on indigenous peoples	146-151				11.01.3
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.4
Conflict and security						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
GRI 410: Security Practices 2016	412-1 Security personnel trained in human rights policies or procedures	146-151				11.01.2
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.3
GRI 415: Public Policy 2016	412-1 Public Policy	146-151				11.01.4
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.5
Energy Accessibility & Security						
GRI 3: Material Topics 2021	3-1 Management of material topics	146-151				11.01.1
Topics in the applicable GRI Sector Standards determined as not material						
TOPIC						
GRI 11: Oil and Gas Sector 2021	11-1 Closure and rehabilitation					11.01.1
There is no any closure and rehabilitation plan in the near future (0-10 years).						

GRI STANDARD/ OTHER SOURCE	DISCLOSURE	Location	REQUIREMENT (S) OMITTED	OMISSION REASON	EXPLANATION	GRI SECTOR STANDARD REF. NO.
Product and service quality & customer relationship						
GRI 3: Material Topics 2021	3-1 Management of material topics	41-52				11.0.3
GRI 416: Customer Health and Safety 2016	412-1 Assessment of the health and safety impacts of products and services categories	41-52				11.0.3
GRI 417: Marketing and Labeling 2016	412-2 Incidents of non-compliance concerning marketing communications	155				11.0.3
GRI 3: Material Topics 2021						
GRI 3: Material Topics 2021	3-1 Management of material topics	84-92				11.1.1
GRI 301: Economic Performance 2016	301-1 Financial implications and other risks and opportunities due to climate change	84-92				11.1.2
GRI 301: Economic Performance 2016	301-2 Energy consumption within the organization	156-159				11.1.2
GRI 302: Energy 2016	302-1 Energy consumption outside of the organization	n/a	A, B, C	Confidentiality concerns	Energy data provides confidence to suppliers, transporters, stakeholders, and other stakeholders in the value chain.	11.1.3
GRI 302: Energy 2016	302-2 Energy intensity	159				11.1.4
GRI 302: Energy 2016	302-3 Reduction of energy consumption	84-92				11.1.5
GRI 302: Energy 2016	302-4 Direct Scope 1 GHG emissions	162				11.1.6
GRI 302: Energy 2016	302-5 Indirect Scope 2 GHG emissions	162				11.1.7
GRI 302: Energy 2016	302-6 Other indirect Scope 3 GHG emissions	162				11.1.8
GRI 302: Energy 2016	302-7 Other indirect Scope 3 GHG emissions	162				11.1.9
GRI 302: Energy 2016	302-8 Other indirect Scope 3 GHG emissions	162				11.1.10
GRI 302: Energy 2016	302-9 Other indirect Scope 3 GHG emissions	162				11.1.11
GRI 302: Energy 2016	302-10 Other indirect Scope 3 GHG emissions	162				11.1.12
GRI 302: Energy 2016	302-11 Other indirect Scope 3 GHG emissions	162				11.1.13
GRI 302: Energy 2016	302-12 Other indirect Scope 3 GHG emissions	162				11.1.14
GRI 302: Energy 2016	302-13 Other indirect Scope 3 GHG emissions	162				11.1.15
GRI 302: Energy 2016	302-14 Other indirect Scope 3 GHG emissions	162				11.1.16
GRI 302: Energy 2016	302-15 Other indirect Scope 3 GHG emissions	162				11.1.17
GRI 302: Energy 2016	302-16 Other indirect Scope 3 GHG emissions	162				11.1.18
GRI 302: Energy 2016	302-17 Other indirect Scope 3 GHG emissions	162				11.1.19
GRI 302: Energy 2016	302-18 Other indirect Scope 3 GHG emissions	162				11.1.20
GRI 302: Energy 2016	302-19 Other indirect Scope 3 GHG emissions	162				11.1.21
GRI 302: Energy 2016	302-20 Other indirect Scope 3 GHG emissions	162				11.1.22
GRI 302: Energy 2016	302-21 Other indirect Scope 3 GHG emissions	162				11.1.23
GRI 302: Energy 2016	302-22 Other indirect Scope 3 GHG emissions	162				11.1.24
GRI 302: Energy 2016	302-23 Other indirect Scope 3 GHG emissions	162				11.1.25
GRI 302: Energy 2016	302-24 Other indirect Scope 3 GHG emissions	162				11.1.26
GRI 302: Energy 2016	302-25 Other indirect Scope 3 GHG emissions	162				11.1.27
GRI 302: Energy 2016	302-26 Other indirect Scope 3 GHG emissions	162				11.1.28
GRI 302: Energy 2016	302-27 Other indirect Scope 3 GHG emissions	162				11.1.29
GRI 302: Energy 2016	302-28 Other indirect Scope 3 GHG emissions	162				11.1.30
GRI 302: Energy 2016	302-29 Other indirect Scope 3 GHG emissions	162				11.1.31
GRI 302: Energy 2016	302-30 Other indirect Scope 3 GHG emissions	162				11.1.32
GRI 302: Energy 2016	302-31 Other indirect Scope 3 GHG emissions	162				11.1.33
GRI 302: Energy 2016	302-32 Other indirect Scope 3 GHG emissions	162				11.1.34
GRI 302: Energy 2016	302-33 Other indirect Scope 3 GHG emissions	162				11.1.35
GRI 302: Energy 2016	302-34 Other indirect Scope 3 GHG emissions	162				11.1.36
GRI 302: Energy 2016	302-35 Other indirect Scope 3 GHG emissions	162				11.1.37
GRI 302: Energy 2016	302-36 Other indirect Scope 3 GHG emissions	162				11.1.38
GRI 302: Energy 2016	302-37 Other indirect Scope 3 GHG emissions	162				11.1.39
GRI 302: Energy 2016	302-38 Other indirect Scope 3 GHG emissions	162				11.1.40
GRI 302: Energy 2016	302-39 Other indirect Scope 3 GHG emissions	162				11.1.41
GRI 302: Energy 2016	302-40 Other indirect Scope 3 GHG emissions	162				11.1.42
GRI 302: Energy 2016	302-41 Other indirect Scope 3 GHG emissions	162				11.1.43
GRI 302: Energy 2016	302-42 Other indirect Scope 3 GHG emissions	162				11.1.44
GRI 302: Energy 2016	302-43 Other indirect Scope 3 GHG emissions	162				11.1.45
GRI 302: Energy 2016	302-44 Other indirect Scope 3 GHG emissions	162				11.1.46
GRI 302: Energy 2016	302-45 Other indirect Scope 3 GHG emissions	162				11.1.47
GRI 302: Energy 2016	302-46 Other indirect Scope 3 GHG emissions	162				11.1.48
GRI 302: Energy 2016	302-47 Other indirect Scope 3 GHG emissions	162				11.1.49
GRI 302: Energy 2016	302-48 Other indirect Scope 3 GHG emissions	162				11.1.50
GRI 302: Energy 2016	302-49 Other indirect Scope 3 GHG emissions	162				11.1.51
GRI 302: Energy 2016	302-50 Other indirect Scope 3 GHG emissions	162				11.1.52
GRI 302: Energy 2016	302-51 Other indirect Scope 3 GHG emissions	162				11.1.53
GRI 302: Energy 2016	302-52 Other indirect Scope 3 GHG emissions	162				11.1.54
GRI 302: Energy 2016	302-53 Other indirect Scope 3 GHG emissions	162				11.1.55
GRI 302: Energy 2016	302-54 Other indirect Scope 3 GHG emissions	162				11.1.56
GRI 302: Energy 2016	302-55 Other indirect Scope 3 GHG emissions	162				11.1.57
GRI 302: Energy 2016	302-56 Other indirect Scope 3 GHG emissions	162				11.1.58
GRI 302: Energy 2016	302-57 Other indirect Scope 3 GHG emissions	162				11.1.59
GRI 302: Energy 2016	302-58 Other indirect Scope 3 GHG emissions	162				11.1.60
GRI 302: Energy 2016	302-59 Other indirect Scope 3 GHG emissions	162				11.1.61
GRI 302: Energy 2016	302-60 Other indirect Scope 3 GHG emissions	162				11.1.62
GRI 302: Energy 2016	302-61 Other indirect Scope 3 GHG emissions	162				11.1.63
GRI 302: Energy 2016	302-62 Other indirect Scope 3 GHG emissions	162				11.1.64
GRI 302: Energy 2016	302-63 Other indirect Scope 3 GHG emissions	162				11.1.65
GRI 302: Energy 2016	302-64 Other indirect Scope 3 GHG emissions	162				11.1.66
GRI 302: Energy 2016	302-65 Other indirect Scope 3 GHG emissions	162				11.1.67
GRI 302: Energy 2016	302-66 Other indirect Scope 3 GHG emissions	162				11.1.68
GRI 302: Energy 2016	302-67 Other indirect Scope 3 GHG emissions	162				11.1.69
GRI 302: Energy 2016	302-68 Other indirect Scope 3 GHG emissions	162				11.1.70
GRI 302: Energy 2016	302-69 Other indirect Scope 3 GHG emissions	162				11.1.71
GRI 302: Energy 2016	302-70 Other indirect Scope 3 GHG emissions	162				11.1.72
GRI 302: Energy 2016	302-71 Other indirect Scope 3 GHG emissions	162				11.1.73
GRI 302: Energy 2016	302-72 Other indirect Scope 3 GHG emissions	162				11.1.74
GRI 302: Energy 2016	302-73 Other indirect Scope 3 GHG emissions	162				11.1.75
GRI 302: Energy 2016	302-74 Other indirect Scope 3 GHG emissions	162				11.1.76
GRI 302: Energy 2016	302-75 Other indirect Scope 3 GHG emissions	162				11.1.77
GRI 302: Energy 2016	302-76 Other indirect Scope 3 GHG emissions	162				11.1.78
GRI 302: Energy 2016	302-77 Other indirect Scope 3 GHG emissions	162				11.1.79
GRI 302: Energy 2016	302-78 Other indirect Scope 3 GHG emissions	162				11.1.80
GRI 302: Energy 2016	302-79 Other indirect Scope 3 GHG emissions	162				11.1.81
GRI 302: Energy 2016	302-80 Other indirect Scope 3 GHG emissions	162				11.1.82
GRI 302: Energy 2016	302-81 Other indirect Scope 3 GHG emissions	162				11.1.83
GRI 302: Energy 2016	302-82 Other indirect Scope 3 GHG emissions	162				11.1.84
GRI 302: Energy 2016	302-83 Other indirect Scope 3 GHG emissions	162				11.1.85
GRI 302: Energy 2016	302-84 Other indirect Scope 3 GHG emissions	162				11.1.86
GRI 302: Energy 2016	302-85 Other indirect Scope 3 GHG emissions	162				11.1.87
GRI 302: Energy 2016	302-86 Other indirect Scope 3 GHG emissions	162				11.1.88
GRI 302: Energy 2016	302-87 Other indirect Scope 3 GHG emissions	162				11.1.89
GRI 302: Energy 2016	302-88 Other indirect Scope 3 GHG emissions	162				11.1.90
GRI 302: Energy 2016	302-89 Other indirect Scope 3 GHG emissions	162				11.1.91
GRI 302: Energy 2016	302-90 Other indirect Scope 3 GHG emissions	162				11.1.92
GRI 302: Energy 2016	302-91 Other indirect Scope 3 GHG emissions	162				11.1.93
GRI 302: Energy 2016	302-92 Other indirect Scope 3 GHG emissions	162				11.1.94
GRI 302: Energy 2016	302-93 Other indirect Scope 3 GHG emissions	162				11.1.95
GRI 302: Energy 2016	302-94 Other indirect Scope 3 GHG emissions	162				11.1.96
GRI 302: Energy 2016	302-95 Other indirect Scope 3 GHG emissions	162				11.1.97
GRI 302: Energy 2016	302-96 Other indirect Scope 3 GHG emissions	162				11.1.98
GRI 302: Energy 2016	302-97 Other indirect Scope 3 GHG emissions	162				11.1.99
GRI 302: Energy 2016	302-98 Other indirect Scope 3 GHG emissions	162				11.1.100
GRI 302: Energy 2016	302-99 Other indirect Scope 3 GHG emissions	162				11.1.101
GRI 302: Energy 2016	302-100 Other indirect Scope 3 GHG emissions	162				11.1.102
GRI 302: Energy 2016	302-101 Other indirect Scope 3 GHG emissions	162				11.1.103
GRI 302: Energy 2016	302-102 Other indirect Scope 3 GHG emissions	162				11.1.104
GRI 302: Energy 2016	302-103 Other indirect Scope 3 GHG emissions	162				11.1.105
GRI 302: Energy 2016	302-104 Other indirect Scope 3 GHG emissions	162				11.1.106
GRI 302: Energy 2016	302-105 Other indirect Scope 3 GHG emissions	162				11.1.107
GRI 302: Energy 2016	302-106 Other indirect Scope 3 GHG emissions	162				11.1.108
GRI 302: Energy 2016	302-107 Other indirect Scope 3 GHG emissions	162				11.1.109
GRI 302: Energy 2016	302-108 Other indirect Scope 3 GHG emissions	162				11.1.110
GRI 302: Energy 2016	302-109 Other indirect Scope 3 GHG emissions	162				11.1.111
GRI 302: Energy 2016	302-110 Other indirect Scope 3 GHG emissions	162				11.1.112
GRI 302: Energy 2016	302-111 Other indirect Scope 3 GHG emissions	162				11.1.113
GRI 302: Energy 2016	302-112 Other indirect Scope 3 GHG emissions	162				11.1.114
GRI 302: Energy 2016	302-113 Other indirect Scope 3 GHG emissions	162				11.1.115
GRI 302: Energy 2016	302-114 Other indirect Scope 3 GHG emissions	162				11.1.116
GRI 302: Energy 2016	302-115 Other indirect Scope 3 GHG emissions	162				11.1.117
GRI 302: Energy 2016	302-116 Other indirect Scope 3 GHG emissions	162				11.1.118
GRI 302: Energy 2016	302-117 Other indirect Scope 3 GHG emissions	162				11.1.119
GRI 302: Energy 2016	302-118 Other indirect Scope 3 GHG emissions	162				11.1.120
GRI 302: Energy 2016	302-119 Other indirect Scope 3 GHG emissions	162				11.1.121
GRI 302: Energy 2016	302-120 Other indirect Scope 3 GHG emissions	162				11.1.122
GRI 302: Energy 2016	302-121 Other indirect Scope 3 GHG emissions	162				11.1.123
GRI 302: Energy 2016	302-122 Other indirect Scope 3 GHG emissions	162				11.1.124
GRI 302: Energy 2016	302-123 Other indirect Scope 3 GHG emissions	162				11.1.125
GRI 302: Energy 2016	302-124 Other indirect Scope 3 GHG emissions	162				11.1.126
GRI 302: Energy 2016	302-125 Other indirect Scope 3 GHG emissions	162				11.1.127
GRI 302: Energy 2016	302-126 Other indirect Scope 3 GHG emissions	162				11.1.128
GRI 302: Energy 2016	302-127 Other indirect Scope 3 GHG emissions	162				11.1.129
GRI 302: Energy 2016	302-128 Other indirect Scope 3 GHG emissions	162				11.1.130
GRI 302: Energy 2016	302-129 Other indirect Scope 3 GHG emissions	162				11.1.131
GRI 302: Energy 2016	302-130 Other indirect Scope 3 GHG emissions	162				11.1.132
GRI 302: Energy 2016	302-131 Other indirect Scope 3 GHG emissions	162				11.1.133
GRI 302: Energy 2016	302-132 Other indirect Scope 3 GHG emissions	162				11.1.134
GRI 302: Energy 2016	302-133 Other indirect Scope 3 GHG emissions	162				11.1.135
GRI 302: Energy 2016	302-134 Other indirect Scope 3 GHG emissions	162				11.1.136
GRI 302: Energy 2016	302-135 Other indirect Scope 3 GHG emissions	162				11.1.137
GRI 302: Energy 2016	302-136 Other indirect Scope 3 GHG emissions	162				11.1.138
GRI 302: Energy 2016	302-137 Other indirect Scope 3 GHG emissions	162				11.1.139
GRI 302: Energy 2016	302-138 Other indirect Scope 3 GHG emissions	162				11.1.140
GRI 302: Energy 2016	302-139 Other indirect Scope 3 GHG emissions	162				11.1.141
GRI 302: Energy 2016	302-140 Other indirect Scope 3 GHG emissions	162				11.1.142
GRI 302: Energy 2016	302-141 Other indirect Scope 3 GHG emissions	162				11.1.143
GRI 302: Energy 2016	302-142 Other indirect Scope 3 GHG emissions	162				11.1.144
GRI 302: Energy 2016	302-143 Other indirect Scope 3 GHG emissions	162				11.1.145
GRI 302: Energy 2016	302-144 Other indirect Scope 3 GHG emissions	162				11.1.146
GRI 302: Energy 2016	302-145 Other indirect Scope 3 GHG emissions	162				11.1.147
GRI 302: Energy 2016	302-146 Other indirect Scope 3 GHG emissions	162				11.1.148
GRI 302: Energy 2016	302-147 Other indirect Scope 3 GHG emissions	162				11.1.149
GRI 302: Energy 2016	302-148 Other indirect Scope 3 GHG emissions	162				11.1.150
GRI 302: Energy 2016	302-149 Other indirect Scope 3 GHG emissions	162				11.1.151
GRI 302: Energy 2016	302-150 Other indirect Scope 3 GHG emissions	162				11.1.152
GRI 302: Energy 2016	302-151 Other indirect Scope 3 GHG emissions	162				11.1.153
GRI 302: Energy 2016	302-152 Other indirect Scope 3 GHG emissions	162				11.1.154
GRI 302: Energy 2016	302-153 Other indirect Scope 3 GHG emissions	162				11.1.155
GRI 302: Energy 2016	302-154 Other indirect Scope 3 GHG emissions	162				11.1.156
GRI 302: Energy 2016	302-155 Other indirect Scope 3 GHG emissions	162				11.1.157
GRI 302: Energy 2016	302-156 Other indirect Scope 3 GHG emissions	162				11.1.158
GRI 302: Energy 2016	302-157 Other indirect Scope 3 GHG emissions	162				11.1.159
GRI 302: Energy 2016	302-158 Other indirect Scope 3 GHG emissions	162				11.1.160
GRI 302: Energy 2016	302-159 Other indirect Scope 3 GHG emissions	162				11.1.161
GRI 302: Energy 2016	302-160 Other indirect Scope 3 GHG emissions	162				11.1.162
GRI 302: Energy 2016	302-161 Other indirect Scope 3 GHG emissions	162				11.1.163
GRI 302: Energy 2016	302-162 Other indirect Scope 3 GHG emissions	162				11.1.164
GRI 302: Energy 2016	302-163 Other indirect Scope 3 GHG emissions					

ภาคผนวก ค-11

แผนการตรวจสอบอุปกรณ์ดับเพลิง ประจำปีพ.ศ. 2568



ตารางการตรวจอุปกรณ์ดับเพลิงประจำปี																					
เดือน																					
	SFI-03	SFI-04	SFI-05	SFI-06	SFI-07	SFI-08	SFI-09	SFI-10	SFI-11	SFI-12	SFI-13	SFI-14	SFI-15	SFI-17	SFI-33	SFI-34	SFI-36	SFI-38	SFI-40	SFD-06	ตรวจชุดดับเพลิง
มกราคม	A, B, C, D	A	D	C	B	B	A, B, C, D	A, B, C, D	A	A, B, C, D	A, B, C, D	C	A, B, C, D	C	D	A, B, C, D	C	A	A, B, C, D	A, B, C, D	A
กุมภาพันธ์	A= HB01 - HB34, B = HB35 - HB68, C= HB69 - HB102, D = HB103 - HB137	D	C	B	A	A	A = 01 - 27, B = 28 - 54, C = 55 - 81, D = 82 - 107	A = ISUZU 1, MITZU 1, RESCUE, BIG GUN 1 B = ISUZU 2, MITZU 2, AMBULANCE, BIG GUN 2 C = ISUZU 3, MITZU 3, กระบะมีหลังคา, GEN.1 D = VOLVO, MITZU 4, กระบะไม่มีหลังคา, GEN 2	D	A = ISUZU 1, MITZU 1, RESCUE, BIG GUN 1 B = ISUZU 2, MITZU 2, AMBULANCE, BIG GUN 2 C = ISUZU 3, MITZU 3, กระบะมีหลังคา, GEN.1 D = VOLVO, MITZU 4, กระบะไม่มีหลังคา, GEN 2	ทุกวันเสาร์	B	จันทร์ = JE-1101A, อังคาร = P-1504, พุธ = JE-1101B, พฤหัส = JE-1101C, เสาร์ = P-1502N, อาทิตย์ = JE-1101D	B	C	ทุก 6 เดือน	B	D	ทุกวันเสาร์	ทุกสัปดาห์	D
มีนาคม		D	C	B	A	A			D			B		B	C		B	D			D
เมษายน		D	C	B	A	A			D			B		B	C		B	D			D
พฤษภาคม		C	B	A	D	D			C			A		A	B		A	C			C
มิถุนายน		C	B	A	D	D			C			A		A	B		A	C			C
กรกฎาคม		C	B	A	D	D			C			A		A	B		A	C			C
สิงหาคม		B	A	D	C	C			B			D		D	A		D	B			B
กันยายน		B	A	D	C	C			B			D		D	A		D	B			B
ตุลาคม		B	A	D	C	C			B			D		D	A		D	B			B
พฤศจิกายน		A	D	C	B	B			A			C		C	D		D	A			A
ธันวาคม		A	D	C	B	B			A			C		C	D		D	A			A

** SFI 10 ตรวจเวชภัณฑ์ทุกเช้าแรกของเดือน

หมายเหตุ

- SFI 03 = ตรวจ Fire Hose Box
- SFI 04 = ตรวจ Fire Extinguisher
- SFI 05 = ตรวจ Mobile Foam
- SFI 06 = ตรวจ Fire Alarm Sysytem
- SFI 07 = ตรวจ Fire Hose Reel
- SFI 08 = ตรวจ Fixed Water Monitor
- SFI 09 = ตรวจ Sprinkle Line
- SFI 10 = ตรวจอุปกรณ์ประจำรถดับเพลิงและรถพยาบาล
- SFI 11 = ตรวจเครื่องช่วยหายใจ SCBA (Self Contained Breathing Apparatus)
- SFI 12 = ตรวจสภาพรถดับเพลิง/รถพยาบาล/PICK UP

- SFI 13 = ตรวจระดับตะกอนในบ่อที่ Fire Pump
- SFI 14 = ตรวจ Block Valve
- SFI 15 = ตรวจเครื่องสูบน้ำและมอเตอร์ไฟฟ้า
- SFI 17 = ตรวจไฟแสงสว่างและไฟกระพริบในโรงกลั่น
- SFI 33 = ตรวจ HYDRANT
- SFI 34 = ทดสอบฉีดโฟมจากรถดับเพลิง
- SFI 36 = ตรวจสภาพถนนภายในโรงกลั่น
- SFI 38 = วิธีการตรวจสอบเครื่องดับเพลิงอัตโนมัติชนิด Clean Agent
- SFI 40 = Flush โคลนในท่อดับเพลิง
- SFD 06 = ตรวจ Foam Line & Foam Chamber

การทดสอบอุปกรณ์ดับเพลิงจะทดสอบในเดือน มิถุนายน กับ ธันวาคม ของทุกปี

ภาคผนวก ค-12



ข้อปฏิบัติการใช้สารเคมีขจัดคราบน้ำมัน (Oil dispersant)

SEACARE OSD-2 25 LTR**CERTIFICATE OF ANALYSIS**

Product name : Seacare OSD-2
Part no. : 764420
Date of certificate : 9 June 2022

Production location : Norway

Property	Method	Unit	Spec.	Result
Density at 20°C	ASTM D 4052	Kg/l	0,835-0,850	Within
Appearance	KS-516	-	Clear, Pale yellow	within

We guarantee that the above analytical results are in conformity with the specification.

We hereby confirm that the product is produced according to the ISO 9001 and ISO 14001 and all parameters are in conformity with the specification.

Approved and signed by
To



Office address: Kjoepmannskjaer, Norway. **Postal address:** P.O. Box 15, N-3141 Kjoepmannskjaer, Norway.
Tel.: + 47 33351500.

Product Group: 652**Product number: 764420****General description**

Seacare OSD-2 Oil Spill Dispersant is a biodegradable hydrocarbon based product with high dispersing efficiency and low toxicity. It is approved as a Type I dispersant according to LR448 specifications by the Department for Environment, Food & Rural Affairs (DEFRA) formerly UK Ministry of Agriculture, Fisheries and Food (MAFF).

Features

- Approved Type I dispersant according to the latest LR448 specifications of AEA Technology Plc. covering both efficiency and toxicity for use in dispersing oil on sea, beaches and rocks
- Disperses mineral oils, crude oils, residual fuel oils, diesel fuel oil, kerosene, white spirit and lubricant oils
- For use on oil spills that may occur during loading or discharging of cargo or bunkers where allowed
- For cleaning of spills on deck, ships side, piers, wharfs, etc. where allowed

Benefits

- Raised standards for operator safety in handling and use, being biodegradable and having low toxicity and a high flash point
- Rapid efficient dispersal of a wide range of oil residues. Converts hydrocarbons into very fine emulsions
- Ready to use product

Definition

Type I: Conventional hydrocarbon-base - for use primarily undiluted on beaches, but may also be used undiluted from WSL spray sets using breaker boards or other suitable means of application and agitation.

Department for Environment, Food & Rural Affairs (DEFRA)

APPROVAL OF THE USE OF SUBSTANCES PRODUCED FOR THE PURPOSE OF TREATING OIL ON THE SURFACE OF THE SEA

Notes for guidance 1. Article 3 of the Deposits in the Sea (Exemptions) Order 1985 as read with paragraph 21 of the Schedule to it, provides that a licence is not needed under Part II of the Act to deposit any substance produced for the purpose of

treating oil on the surface of the sea provided you meet the following conditions:

- The substance is one, the use of which, is for the time being approved by the licensing authority;
- The substance is used in accordance with any conditions to which the approval was subject;
- No deposits made in an area of the sea of a depth of less than 20 metres or within one mile of any such area, save with the approval of the licensing authority;
- Similarly a licence is not needed (if conditions are satisfied) for the loading of a vessel aircraft, hovercraft, marine structure or floating container in England and Wales, with products for deposit for the treatment of oil on the surface of the sea, within British Fishery limits (other than waters adjacent to Scotland).

1. The Ministry of Agriculture, Fisheries and Food has tested this product for toxicity and found it to be satisfactory at the specified application rate. It has also been tested for efficiency and safety in use by AEA Technology Plc. And similarly found to be satisfactory.
2. A person who deposits in the sea a substance not for the time being approved by the licensing authority for the purpose of treating oil on the surface of the sea or not within the terms of this approval, may be in breach of the terms of the Food and Environment Protection Act, 1985.
3. A person who intends to use any substance for the purpose of treating oil on the surface of the sea should also consult the Nature Conservancy Council before beginning operations.
4. Copies of the current Continental Shelf Operations Notice (CSON 7) are obtainable from the Department of Energy, Petroleum Engineering Division, Thames House South, Millbank, London SW1P 4QJ.

Further information on the use of oil spill dispersants is contained in the Institute of Petroleum (London) publication "Guidelines on the Use of Oil Spill Dispersants" 2nd Edition (1988).

Ordering information

Product Number	Product name
764420	SEACARE OSD-2 25 LTR

Approvals

- This composition meets the criteria for not being harmful to the marine environment according to MARPOL Annex V and may be discharged into the sea when used to clean cargo holds and external surfaces on ships.
- Approved as a Type I dispersant according to LR448 specifications by the Department for Environment, Food & Rural Affairs (DEFRA) former the U.K. Ministry of Agriculture, Fisheries and Food (MAFF). See definition Above
- Approved as a type I dispersant by MMO (Marine Management Organisation) for oil spill treatment applications in the United Kingdom

Directions for use

Oil Spills at Sea Seacare O.S.D. is used undiluted by direct spraying to clean up oil spills at sea. It can be applied by hand spray, work boats with mounted spray booms, or fire hoses with injectors. Allow some time for the oil to absorb the Seacare O.S.D. and then disperse mixture by vigorous agitation using fire hoses, the ship's propeller, breaker boards towed behind work boats, etc. Seacare O.S.D. should not be used in an area of sea of a depth less than 20 metres or within one mile of such areas except in accordance with the advice of the local District Inspector of Fisheries of Ministry or Scottish Office Agriculture, Environmental and Fisheries Department (SOAEFD).

Oil on Beaches and Shore Line

Seacare O.S.D. should be applied neat by spraying over oiled areas. Allow time for the oil to absorb the Seacare O.S.D. then follow by washing down the beach or rocks, etc. The treatment rate depends on the type and thickness of the oil spill, also on the age and condition. Under conditions where it is a thin slick of oil, 1 litre of Seacare O.S.D. is enough to treat approximately 10 square metres of oil. In many cases, several applications may be necessary.

Oil Spill on Deck

Remove as much of the oil as possible, then spray Seacare O.S.D. over area covered by the oil and allow some time for it to be absorbed. Disperse the mixture with water by means of a fire hose. Depending on type of oil it may be necessary to use several applications.

Documentation

SDS

- [SEACARE OSD-2 25 LTR](#)

Further Technical Data

Form	Liquid
Appearance	Amber
Density	0,8
Flash Point	Above 61 C
Compatibility	Do not use together with natural rubber; may swell synthetic rubber

SEACARE OSD 2

Wilhelmsen Ships Service AS

Catalogue number: 764420 (25 liter), 764422 (210 liter)

Version No: 5.9

Safety Data Sheet

Issue Date: 10/04/2018

Print Date: 09/09/2019

L,GHS,NOR,EN



SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	SEACARE OSD 2
Synonyms	Not Available
Other means of identification	764420 (25 liter), 764422 (210 liter), 764420, 774422

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Oil Spill Dispersant
--------------------------	----------------------

Details of the supplier of the safety data sheet

Registered company name	Wilhelmsen Ships Service AS	Outback (M)SDS portal: http://jr.chemwatch.net/outb/account/autologin?login=wilhelmsen	Wilhelmsen Ships Service AS*
Address	Strandveien 20 Lysaker 1366 Norway	-----Use our Outback portal to obtain our (M)SDSs in other languages and/or format.----- For questions relating to our SDSs please use Email: WSS.GLOBAL.SDSINFO@wilhelmsen.com ----- Norway	Willem Barentszstraat 50 Rotterdam Netherlands
Telephone	+47 67 58 40 00	Not Available	+31 10 4877 777
Fax	Not Available	Not Available	+31 10 4877888
Website	http://www.wilhelmsen.com/	Not Available	http://www.wilhelmsen.com
Email	wss.norway.cs@wilhelmsen.com	Not Available	wss.rotterdam@wilhelmsen.com

Emergency telephone number

Association / Organisation	Giftinformasjonssentralen - 24 timer	American Chemistry Council 24hrs - Chemtrec	Dutch nat. poison centre
Emergency telephone numbers	+47 22591300	+1 703 527 3887	+ 31 30 274 88 88
Other emergency telephone numbers	Not Available	(800) 424 9300	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

Classification according to regulation (EC) No	H319 - Eye Irritation Category 2, H304 - Aspiration Hazard Category 1
--	---

Catalogue number: 764420 (25 liter), 764422 (210 liter)

Version No: 5.9

Page 2 of 9


Issue Date: 10/04/2018

Print Date: 09/09/2019

SEACARE OSD 2

1272/2008 [CLP] ^[1]	
Legend:	1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
SIGNAL WORD	DANGER

Hazard statement(s)

H319	Causes serious eye irritation.
H304	May be fatal if swallowed and enters airways.

Precautionary statement(s) General

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.

Precautionary statement(s) Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection.
------	--

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P331	Do NOT induce vomiting.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

P405	Store locked up.
------	------------------

Precautionary statement(s) Disposal

P501	Dispose of contents/container in accordance with local regulations.
------	---

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name	Classification according to regulation (EC) No 1272/2008 [CLP]
Not Available	60-100	<u>Hydrocarbones, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics</u>	Aspiration Hazard Category 1; H304, EUH066 ^[1]
26264-05-1*	1-3	<u>Dodecylbenzene sulphonate isopropylamine salt</u>	Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1; H302, H315, H318 ^[1]
Legend:		1. Classified by Chemwatch; 2. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 3. Classification drawn from C&L; * EU IOELVs available	

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes:
-------------	---

Continued...

Continued...

	<ul style="list-style-type: none">▶ Wash out immediately with fresh running water.▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none">▶ Immediately remove all contaminated clothing, including footwear.▶ Flush skin and hair with running water (and soap if available).▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none">▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none">▶ Immediately give a glass of water.▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

- ▶ Water spray or fog.
- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
----------------------	-------------

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none">▶ Alert Fire Brigade and tell them location and nature of hazard.▶ Wear full body protective clothing with breathing apparatus.▶ Prevent, by any means available, spillage from entering drains or water course.▶ Use water delivered as a fine spray to control fire and cool adjacent area.▶ Avoid spraying water onto liquid pools.▶ DO NOT approach containers suspected to be hot.▶ Cool fire exposed containers with water spray from a protected location.
Fire/Explosion Hazard	<ul style="list-style-type: none">▶ Combustible.▶ Slight fire hazard when exposed to heat or flame.▶ Heating may cause expansion or decomposition leading to violent rupture of containers.▶ On combustion, may emit irritating/ toxic fumes.▶ May emit acid smoke.▶ Mists containing combustible materials may be explosive. <p>May emit poisonous fumes. May emit corrosive fumes.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills	<ul style="list-style-type: none">▶ Remove all ignition sources.▶ Clean up all spills immediately.▶ Avoid breathing vapours and contact with skin and eyes.▶ Control personal contact with the substance, by using protective equipment.▶ Contain and absorb spill with sand, earth, inert material or vermiculite.
--------------	---

Continued...

	<ul style="list-style-type: none">▶ Wipe up.▶ Place in a suitable, labelled container for waste disposal.
Major Spills	<p>Moderate hazard.</p> <ul style="list-style-type: none">▶ Clear area of personnel and move upwind.▶ Alert Fire Brigade and tell them location and nature of hazard.▶ Wear breathing apparatus plus protective gloves.▶ Prevent, by any means available, spillage from entering drains or water course.▶ No smoking, naked lights or ignition sources.▶ Increase ventilation.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none">▶ Avoid all personal contact, including inhalation.▶ Wear protective clothing when risk of exposure occurs.▶ Use in a well-ventilated area.▶ Prevent concentration in hollows and sumps.▶ DO NOT enter confined spaces until atmosphere has been checked.▶ Avoid smoking, naked lights or ignition sources.▶ Avoid contact with incompatible materials.▶ DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none">▶ Store in original containers.▶ Keep containers securely sealed.▶ No smoking, naked lights or ignition sources.▶ Store in a cool, dry, well-ventilated area.▶ Store away from incompatible materials and foodstuff containers.▶ Protect containers against physical damage and check regularly for leaks.▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none">▶ Metal can or drum▶ Packaging as recommended by manufacturer.▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known



SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
SEACARE OSD 2	Not Available	Not Available	Not Available	Not Available


Ingredient	Original IDLH	Revised IDLH
Hydrocarbones, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Available	Not Available
Dodecylbenzene sulphonate isopropylamine salt	Not Available	Not Available

Continued...

MATERIAL DATA

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure.
Personal protection	
Eye and face protection	<ul style="list-style-type: none">► Safety glasses with side shields.► Chemical goggles.► Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.
Skin protection	See Hand protection below
Hands/feet protection	<ul style="list-style-type: none">► Wear chemical protective gloves, e.g. PVC.► Wear safety footwear or safety gumboots, e.g. Rubber <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p>
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none">► Overalls.► P.V.C. apron.► Barrier cream.► Skin cleansing cream.► Eye wash unit.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	light brown		
Physical state	Liquid	Relative density (Water = 1)	0,8
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	225
pH (as supplied)	Not Available	Decomposition temperature	Not Available

Continued...

Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	195-245	Molecular weight (g/mol)	Not Available
Flash point (°C)	73	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	Oxidising properties	Not Available
Upper Explosive Limit (%)	5.5	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	0.6	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none">► Unstable in the presence of incompatible materials.► Product is considered stable.► Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	<p>Swallowing of the liquid may cause aspiration of vomit into the lungs with the risk of haemorrhaging, pulmonary oedema, progressing to chemical pneumonitis; serious consequences may result.</p> <p>Signs and symptoms of chemical (aspiration) pneumonitis may include coughing, gasping, choking, burning of the mouth, difficult breathing, and bluish coloured skin (cyanosis).</p> <p>The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.</p>
Skin Contact	<p>Evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. The material may accentuate any pre-existing dermatitis condition</p> <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p>
Eye	<p>Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.</p> <p>Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of</p>

Continued...

	the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.	
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.	
SEACARE OSD 2	TOXICITY	IRRITATION
	Not Available	Not Available
Hydrocarbones, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	TOXICITY	IRRITATION
	Not Available	Not Available
Dodecylbenzene sulphonate isopropylamine salt	TOXICITY	IRRITATION
	Oral (rat) LD50: 1300 mg/kg ^[2]	Not Available
Legend:	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

Acute Toxicity	✗	Carcinogenicity	✗
Skin Irritation/Corrosion	✗	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✗
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✓

Legend: ✗ – Data either not available or does not fill the criteria for classification
✓ – Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

SEACARE OSD 2	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Hydrocarbones, C11-C14, n-alkanes, isoalkanes, cyclics, <2% aromatics	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Dodecylbenzene sulphonate isopropylamine salt	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

For surfactants:

Environmental fate:

Octanol/water partition coefficients cannot easily be determined for surfactants because one part of the molecule is hydrophilic and the other part is hydrophobic. Consequently they tend to accumulate at the interface and are not extracted into one or other of the liquid phases. As a result surfactants are expected to transfer slowly, for example, from water into the flesh of fish. During this process, readily biodegradable surfactants are expected to be metabolised rapidly during the process of bioaccumulation. This was emphasised by the OECD Expert Group stating that chemicals are not to be considered to show bioaccumulation potential if they are readily biodegradable.

Several anionic and nonionic surfactants have been investigated to evaluate their potential to bioconcentrate in fish. BCF values (BCF - bioconcentration factor) ranging from 1 to 350 were found.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Continued...

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none">► Reduction► Reuse► Recycling► Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none">► DO NOT allow wash water from cleaning or process equipment to enter drains.► It may be necessary to collect all wash water for treatment before disposal.► In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.► Where in doubt contact the responsible authority.► Recycle wherever possible or consult manufacturer for recycling options.► Consult State Land Waste Management Authority for disposal.► Bury residue in an authorised landfill.► Recycle containers if possible, or dispose of in an authorised landfill.
------------------------------	--

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
------------------	----

Land transport (ADR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Inland waterways transport (ADN): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

HYDROCARBONES, C11-C14, N-ALKANES, ISOALKANES, CYCLICS, <2% AROMATICS IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

DODECYLBENZENE SULPHONATE ISOPROPYLAMINE SALT IS FOUND ON THE FOLLOWING REGULATORY LISTS

Europe EC Inventory

European Chemical Agency (ECHA) Classification & Labelling Inventory - Chemwatch Harmonised classification

European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

National Inventory Status

National Inventory	Status
--------------------	--------

Continued...

Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (Dodecylbenzene sulphonate isopropylamine salt)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (Dodecylbenzene sulphonate isopropylamine salt)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (Dodecylbenzene sulphonate isopropylamine salt)
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	<i>Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i>

SECTION 16 OTHER INFORMATION

Revision Date	10/04/2018
Initial Date	10/04/2018

CONTACT POINT

- For quotations contact your local Customer Services - <http://wssdirectory.wilhelmsen.com/#/customerservices> - Responsible for safety data sheet
Wilhelmsen Ships Service AS - Prepared by: Product HSE Manager, - Email: WSS.GLOBAL.SDSINFO@wilhelmsen.com - Telephone: Tel.: +31 10 4877775

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

- EN 166 Personal eye-protection
- EN 340 Protective clothing
- EN 374 Protective gloves against chemicals and micro-organisms
- EN 13832 Footwear protecting against chemicals
- EN 133 Respiratory protective devices

Definitions and abbreviations

- PC—TWA: Permissible Concentration-Time Weighted Average
- PC—STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit.
- IDLH: Immediately Dangerous to Life or Health Concentrations
- OSF: Odour Safety Factor
- NOAEL :No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index

Powered by AuthorTe, from Chemwatch.