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Chemicals Management Standard

Rev 04

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Date	Issued	Custodian	Process Owner	Authoriser	Consulted	
Jul' 03	01	Corporate Environmental Manager J. Robinson	General Manager HSE R. Hill	Technical Director E van Spronsen	J. Buckee G. Kolesnikov A. Yedigarov A. Stytsenko	
Apr' 08	02	Production Chemistry Manager A. Markin	Asset Support Manager R. Van Hoek	Production Director T. Hake	J. Buckee D. Kosyak G. Lyra V. Samsonov I. Whyte D. Bell	
June' 11	03	Production Chemistry Manager A. Markin	Production Support Manager A. Boekhorst	Production Director T. Zengerly	A. Absushina N. Anikina J. Best B. Bryson T. De Bont G. Fedorinova A. Fife S. Lock D. Moore D. Onikov V. Panin R. Verburg	
Nov' 14	04	Production Chemistry Manager R. Nizamov	Production Support Manager H. Muhren	Production Director T. Zengerly	K. Savin P. Norman N. Anikina M. Millinier N. Kizima G. Fedorinova A. Solovieva A. Marchenko T. Zinchenko	<i>[Handwritten signatures and initials in blue ink]</i>

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Revision Details

Rev	Location of Change	Brief Description of Change
01		First Issue for Use
02	Throughout	Mandatory update to take account of changes in organisation since original document, including content from HSESAP and changes in Chemicals HSSE Management in E&P Operations
03	Throughout	Update to reflect changes in the Russian Federation legislation and Sakhalin Energy structure
04	Throughout	Optimization of the process of approval of requests for use of Chemicals. Optimization of MSDS filing system.

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1 INTRODUCTION

This document provides the *minimum* requirements for the management and control of Chemicals handling across all Sakhalin Energy's activities.

The Company aims to use all Chemicals in its operations cost effectively and responsibly. Overall risk is reduced through careful management of Chemicals at all stages of the Chemical Life Cycle Process.

The intent of the Standard is to:


- Minimize the potential impact of Chemicals on health, safety and the environment;
- Ensure full compliance with applicable legislation;
- Minimize the quantity of Chemical waste generated;
- Minimize the number of Chemicals used;
- Maximize the cost effectiveness of Chemicals used.

2 SCOPE

This Standard applies to all routine and non-routine activities (irrespective of location) performed by Sakhalin Energy and its Contractors where Chemicals are involved. It applies equally to activities performed both inside and outside the boundaries of the Russian Federation. The main principle of application of this Standard is that any Chemical that has all or any part of its lifecycle under Sakhalin Energy direct responsibility shall fall under full compliance with this Standard.

The above principle translates into the following Contractor compliance principles:


- Full compliance for Contractors working at or delivering Chemicals for Sakhalin Energy operating facilities under Sakhalin Energy control (e.g. offshore and onshore installations, office and housing buildings, etc.). This includes full compliance for management of Chemicals used in fabrication or construction whose lifecycle will be extended into operations of Sakhalin Energy operating facilities under Sakhalin Energy control.
- Compliance with the main principles of this Standard confirmed via Contractor HSE/Chemicals management procedures approved by contract holder and verified through the contractor management system assurance process (supervision, inspection, reviews, audits and incident investigations). For example, this mode of compliance would be for Chemicals used by a construction Contractor where such Chemicals are disposed of prior to hand-over of the facility to Sakhalin Energy and do not remain at the Sakhalin Energy facility after hand-over. This mode of compliance for each contract should be confirmed appropriate by the contract holder and reviewed by the Chemicals Approval Panel (CAP) prior to being applied.

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This Standard addresses the following categories of Chemicals:

2.1 CATEGORIES OF CHEMICALS WITH EXAMPLES OF EACH


CATEGORY	CATEGORY DESCRIPTION	SUGGESTED DISCIPLINE (AUTHORIZED PERSON)	EXAMPLES
Well drilling and repair	Well operations Chemicals are drilling fluids, cementing Chemicals, BOP fluids and all Chemicals used by well operations during servicing of a well	Technical Department (Well Manager)	Brine, oil based mud
Production Chemicals for treatment of oil and injection water	Used to facilitate the oil production process and treatment of injection water etc.	Production Chemistry (Production Chemistry Manager)	Biocide, Calcium Nitrate, Oxygen Scavenger, Demulsifier, Scale Inhibitor
Commodities	Used to dry gas, used for hydrotests, as HPF and antifreeze, as component for sour gas removal	Production Chemistry (Production Chemistry Manager), Production, Facilities, E&M (Heads Depts)	Solutions of Glycol, pH regulators, Sour Gas Eliminators
Drinking water purification Chemicals	Used to purify fresh water	Operations, Facilities (Heads Depts)	Sodium hypochlorite, sodium thiosulphate), coagulants, disinfectants, pest control Chemicals
Laboratory Chemicals	Used to perform tests or analysis in a laboratory	Production Chemistry (Production Chemistry Manager), LNG Operations (Head of LNG Lab)	Chemicals, Indicators, Acids, Gases
Chemicals for electrical equipment	Chemical used by E&M electrical to carry out work	E&M (Head of Dept)	Transformer oils, Contact Cleaners

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CATEGORY	CATEGORY DESCRIPTION	SUGGESTED DISCIPLINE (AUTHORIZED PERSON)	EXAMPLES
Chemicals for Instruments	Chemical used by E&M Instrument to carry out work	E&M (Head of Dept)	Gas and smoke generating Chemicals vials and aerosols, gases in cylinders, Contact Cleaners
Chemicals for rotating equipment/cranes	Chemical used by E&M rotating equipment/cranes to carry out work	E&M (Head of Dept)	Lubricating oils, greases
Chemicals for corrosion protection	Coatings and greases used by E&M corrosion to carry work	E&M (Head of Dept)	Paints, coatings, greases
Chemicals for Pipelines	Chemical used by E&M pipelines to carry work	E&M (Head of Dept)	Hydrotest Chemicals
Chemicals for Mechanical (static)	Chemical used by E&M mechanical to carry work	E&M (Head of Dept)	Sealants, Adhesives
Chemicals for Civil and Structural	Chemical used by E&M civil & structural to carry work	E&M (Head of Dept)	Bitumen, Gases
Fuels (power generation Chemicals)	Chemicals used as fuels	Operations, Facilities, Logistics (Heads Depts)	Diesel fuel, heli-fuel
Housekeeping and office Chemicals	Chemicals used in maintenance of office and accommodation modules	Facilities (Head of Facility)	Carpets cleaners, domestic paints, detergents, soaps

This Standard **does not address**:

- Radioactive substances or preparations;
- Explosives;
- Methanol (refer to [Methanol Management Procedure](#) 1000-S-90-04-P-0096-00);
- Foodstuffs;
- Cosmetics;
- Medicines and Controlled Drugs;
- Substances generated on work sites, either as a result of operations (e.g. crude oil, hydrogen sulphide) or as by-products of work being carried out (e.g. welding fumes, exhaust gases) (refer to [Air Emissions and Energy Management](#) 0000-S-90-04-O-0257-00);

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- Management of production and utilization wastes (refer to the [Waste Management Standard](#) 0000-S-90-04-O-0258-00);
- Responses to spills and accidental discharges.

3 TARGET AUDIENCE

This Standard applies to **all** Sakhalin Energy staff, contractors and suppliers.

4 TERMINOLOGY and DEFINITIONS

TERM	MEANING
Shall	Indicates a mandatory course of action
Should	Indicates a preferred course of action
May	Indicates a permitted course of action
Chemical	General: Physical substance with a specific Chemical composition. Specific in this document: All gaseous, liquid and solid substances or preparations supplied to Sakhalin Energy for a deliberate application in the processes described in the Clause 2.1 under Category Description.
Chemicals Approval Panel (CAP)	A group of Sakhalin Energy specialists representing relevant disciplines that are charged with reviewing and authorising (accepting or rejecting) all proposals of Chemicals to be used by the Company. The Production Chemistry Manager will chair the CAP. Attendees will include industrial hygienists and HSE specialists. When required, the Production Chemistry Manager can singularly approve a product for use, paying due regard to HSE considerations, subject to endorsement by the other members of the CAP at the next meeting. When approving a Chemical CAP has to refer to Substances of Very High Concern list, Cooling Refrigerants of Restricted Use list.
Chemical Selector	Line manager proposing the use of a Chemical. Chemical Selectors should be nominated by Authorized Person specified in Clause 2.1. Project team members can also act as Chemical Selectors. The Project team is responsible for the engagement of the CAP at AFC phase of the project. The Chemical approval is monitored by Project and installation managers as part of the project delivery.
Maximum Permitted Concentration (MPC)	MPC is allowable concentration limit for specific substance in the environment. The MPC value is an allowable concentration of a Chemical in the environment that will have no adverse impact on the human body and the environment. MPC levels are set by Russian Federation regulators and established via toxicity testing.
Chemical Life Cycle	The sequential events (or steps) involved in applying a Chemical to Company use. Steps that make-up the Chemical Life Cycle include:


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TERM	MEANING
	<p>Need - identifying the need for a Chemical solution after consideration and rejection of all other available options.</p> <p>Selection - arriving at an appropriate choice of Chemical that is fit for purpose, cost effective and HSE acceptable in accordance with discipline specific selection procedures.</p> <p>Approval – approval of the Chemical for use and publication to the approved list of Chemicals.</p> <p>Purchase - obtaining the desired Chemical to an agreed specification and in an appropriate form, from approved suppliers with complete supporting documentation.</p> <p>Transport - transporting by an appropriate means between supply, storage and end use sites in accordance with appropriate procedures.</p> <p>Stock Management - optimizing availability and minimizing stocks of the Chemical at the end use site or intermediate stages while meeting operational requirements by maintaining stock inventories and managing storage facilities following relevant HSE precautions.</p> <p>Use and Recycling - applying Chemicals for their intended purpose at prescribed rates and following specific HSE precautions and re-using Chemicals that can be economically recycled.</p> <p>Disposal - disposing of spent or out of date or surplus Chemicals via prescribed and acceptable waste disposal routes.</p>
Approved Chemicals List	A list of Chemicals maintained by the Company as approved by the Chemicals Approval Panel. Each Asset has its own list.
Material Safety Data Sheets (MSDS)	Safety Data Sheets for Chemical products that give information on various aspects of the Chemical product concerning safety, health and environmental protection.
Occupational Health Assessment	Health risk assessments (HRA) carried out to evaluate tasks for occupational health risks (including Chemical exposure) and identify mitigating controls for those risks.
Management of Change (MoC)	Management of Change Procedure refer to the 5.3 <u>0000-S-90-01-P-0268-00-E</u>

5 RECORDS AND REPORTS

Records shall be maintained by Production Chemistry department to document the implementation of this Standard, including:

- CAP applications as per the Form in Addendum 1.
- Approved Chemicals List – [SEIC Approved Chemicals List](#)

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- list of active CAP members.

6 DELIVATIONS

Any non-compliance with this Standard shall be notified, investigated and reported using the deviation procedure described in Chapter 10 of the [Corporate Document Control Procedure](#) (0000-S-90-01-P-0078-00).

Incidents (including non-compliances) with [Standard shall be reported and investigated as provided in the Incident Reporting and Follow-Up Standard](#) (0000-S-90-04-O-0020-00).

7 RESPONSIBILITIES

7.1 CHEMICALS APPROVAL PANEL (CAP)

All Chemicals (with exception listed in Clause 2.1) used by Sakhalin Energy or by contractors on behalf of Sakhalin Energy at all Sakhalin Energy Assets require CAP.

The Chemical Approval Panel shall:

- Review and approve or reject all applications for Chemical use;
- Maintain the Approved Chemicals List and;
- Upload approved Chemical to [Dolphin](#) database:
 - For all Chemicals - MSDS in Russian and English
 - Additional for elementary substances:
 - a) Certificate of Customs Union (CU) state registration (or a Rospotrebnadzor's note stating that the Chemical is not subject to CU state registration);
 - b) Certificate of registration in the Russian Register of Potentially Hazardous Chemicals and Biological Substances with Information Card.

[CAP membership list](#) to be revised annually as well as after withdrawal of a member(s). The list of actual CAP members can be found at SEIC Production Chemical Portal.

7.2 CHEMICAL SELECTOR

Chemical Selectors are persons which select/order Chemicals within Sakhalin Energy. Generally any Sakhalin Energy employee, but permission of Line Manager or approvals of Technical-authority and technical grounds are required for a given category of Chemicals listed in Clause 2.1.

Shall:

- Complete [Chemical Awareness Induction training](#) (can be found at SEIC Production Chemical

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Portal: http://sww.sakhalinenergy.ru/seic/prd/support/Chem_mang.html) not later than 1 month after assignment;

- Appoint Selector delegates where appropriate;
- Organizes correct and well-timed preparation of Applications to CAP (as per the Form in Addendum 1) which shall be accompanied with the following documentation:
 - a) For all Chemicals - MSDS in Russian and English;
 - b) For elementary substances:
 - MSDS in Russian and English;
 - Certificate of Customs Union (CU) state registration (or a Rospotrebnadzor's note stating that the Chemical is not subject to CU state registration);
 - Certificate of registration in the Russian Register of Potentially Hazardous Chemicals and Biological Substances with Information Card.
 - c) For "Drinking Water Purification" and "Housekeeping And Office" Categories (according to Clause 2.1):
 - MSDS in Russian and English;
 - Certificate of registration in the Russian Register of Potentially Hazardous Chemicals and Biological Substances with Information Card.

7.3 CHEMICAL TECHNICAL AUTHORITY (PRODUCTION CHEMISTRY MANAGER)

Shall:

- Organize and chair CAP;
- Provide specialist advice;
- Selectively Review and audit Sakhalin Energy and Contractors to ensure compliance with this Standard;
- Maintain the Approved Chemicals List.

7.4 OFFSHORE/ ONSHORE ASSET MANAGERS

The Offshore / Onshore Asset Managers are responsible for effective control of all hazardous substances within designated areas and shall ensure that procedures are in place to enable all the following requirements to be achieved:

- Local procedures for the control of toxic and hazardous substances are formulated and implemented, in consultation with C-HSE as necessary;
- MSDS are available prior to the acquisition or use of hazardous substances, or the information supplied on the substance packaging is adequate to enable suitable procedures for the control of the Chemical substance to be developed;
- Suitable personal protective equipment is identified, provided and deployed and worn as appropriate;
- Any Chemical that will be discharge in air have a MPC in working air (if this Chemical is elementary substance)

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- Requirements of this Standard are reflected in the contracts, procedures and work instructions for which they are responsible;
- Be the permit holders for any Russian Federation permits or licenses required for their facilities and are accountable for meeting all conditions within them, even when responsibilities for carrying out any specific activities are delegated to others (demonstrate industrial control).

7.5 SITE CONTROLLERS

Site Controllers assumes single point accountability for all Chemicals stored or used on his / her location and shall ensure that:

- Operations under their control are conducted in compliance with applicable regulatory and permit requirements;
- Monitoring and reporting of compliance with this Standard occurs (refer to Section 1.5 'Deliverables' and 1.8 'Monitoring'), and associated records and reports are maintained during the entire life of the project or asset, or according to effective regulatory requirements.
- Any change to the facilities or activities shall have the environmental impacts of the change assessed as required by the law, and relevant controls developed and implemented prior to the change taking place;
- All staff has the required mandatory training and competencies as defined by Russian Federation and Company requirements. Environmental monitoring results shall be reviewed to identify requirements for more detailed on-going environmental training requirements in relation to this Standard;
- Any Chemical used at his / her location is on the asset specific approved Chemical list;
- Where Chemical discharge in water takes place, these Chemicals are recorded on any legislative permit required for this purpose;
- Any legislative requirements for Chemical use to be reported are met;
- The quantities of Chemicals used at his installation do not exceed the quantities stated on Industrial Safety Declaration and any permit relating to his installation;
- [Reporting of any permits non-compliances to the regulatory body and that these are recorded in Company Health Safety or Environmental tracking system](#) -0000-S-90-04-O-0020-00;
- All incidents involving Chemicals are reported in the Company Health Safety or Environmental tracking system;
- Chemicals are stored in a safe secure and proper manner, correctly packaged, labeled, marked and segregated where required in accordance with the Chemical use requirements;
- Chemicals use and recycling in accordance with MSDS;
- Recommended application rates are followed;
- Chemical stock and depletion of stock are monitored and reported as required;
- Tasks involving Chemicals that are deemed hazardous are risk assessed and that recommendations arising from the risk assessment are followed;
- All PPE is provided and worn as appropriate;

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- Personnel working with hazardous substances receive adequate information instruction and training;
- All tasks involving the use of Chemicals are performed in accordance with safety requirements stipulated in relevant MSDS;
- Spills are dealt with promptly in accordance with instructions on the MSDS and Company's spill response procedures.

7.6 LOGISTICS GROUPS

Is responsible for offshore transportation of Chemicals (in part of marine transportation from Kholmsk port to the platforms and back to Kholmsk port) and for final disposal of unused and obsolete Chemicals and shall ensure that:

- No damage or spill occurs while transporting Chemicals;
- During transportation to the final destination Chemicals are stored in adequate temperature conditions as stipulated in MSDS;
- Chemicals are segregated according to their hazard class.
- Segregated storage recommendations are listed in Attachment 2.
- Final disposal of spent or surplus materials is done via approved routes.
- They understand the Chemical management aspects associated with their area of responsibility and required measures to minimize potential environmental impacts and people health impacts.

7.7 SUPPLY CHAIN MANAGEMENT GROUP

Shall ensure that:

- MSDS are accompanying the load throughout the whole route;
- Chemicals are packed and labeled according to the rules for Land, Sea or Air transportation of dangerous cargo (relevant cargo advisers shall be approached);
- They understand the Chemical management aspects associated with their area of responsibility and required measures to minimize potential environmental impacts and people health impacts.

7.8 SUPERVISORS

Shall ensure that:

- Staff and contractors under their supervision understand the Chemical management issues associated with their work, and required measures to minimize potential environmental impacts;
- Provides risk assessment for tasks involving hazardous Chemicals;
- They make all personnel aware of the hazards associated with substances being used and ensure the use of the correct procedures and appropriate personal protective equipment, where required;
- They report spills and defective equipment appropriately and immediately when identified

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according to the Company's spill response procedures;

- They report environmental incidents and non-compliances appropriately and immediately when identified;
- The Standard is compiled by the employees In the course of conducting their duties;
- They understand the Chemical management aspects associated with their area of responsibility and required measures to minimize potential environmental impacts and people health impacts.

7.9 GENERAL MANAGER HSE

Shall be responsible for:

- Conducting routine audits of Chemicals management activities as part of the HSE Management System (HSE-MS) auditing or as part of a themed audit;
- Receiving, collating and analyzing environmental compliance monitoring and performance data;
- Reporting environmental data, information audit findings within the Company, to both internal and external stakeholders, as appropriate.

7.10 HSE ADVISORS/ SPECIALISTS

Should:

- Contribute to the creation of Chemical management system governance documentation;
- Assist in handling of spills;
- Assist in HS&E issues as part of the selection and approval process;
- Organize waste certification work according to assets requests.

7.11 EMPLOYEES

Employees (whether permanent employees or short-term seconders to the Company) should ensure that:

- They understand the Chemical management aspects associated with their work and the measures required minimizing potential environmental impacts;
- They report any environmental incidents immediately upon identification to their Supervisor;
- They comply with this Standard in the course of conducting their duties;
- Comply with any recommendations from hazardous Chemical risk assessments e.g. wear recommended personal protective equipment;
- Comply with any procedure or work instruction related to tasks involving handling of hazardous Chemicals.

7.12 CONTRACTORS

Shall be responsible for:

- Appropriate management and organization of their activities in line with their contract, Company HSE requirements, including contract HSE Plan and this Standard requirements in order to

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minimize environmental impacts;

- Ensuring that required by legislation environmental licenses / permits for their operations have been issued and that all conditions in licenses / permits that apply to their activities are complied with;
- Provision of any reporting and monitoring of compliance with the environmental requirements, where the Contract Holder has formally delegated collection of the data and information.

7.13 CHEMICAL SUPPLIERS

Shall be responsible for provision of documentation subjected to Clause 1.7.1.

8 PERFORMANCE MONITORING

Monitoring includes (but is not limited to) the following:

- Proper control of scheduled and planned activities;
- Regular inspections of field activities;
- Regular and scheduled auditing of activities and systems;
- Constant inventory of Chemicals in use in Sakhalin Energy;
- Hygienic requirements.

Specialists specified in Clauses 1.7.2 – 1.7.12 are authorized to carry out performance monitoring within the limits of their competence.

Internal inspection control of compliance with environmental requirements shall be performed on a regular basis to control compliance with the conditions of applicable licenses / permits, and this Standard. Internal control data is to be collated and analyzed to develop and implement actions and strategies for adaptive environmental management, environmental impact decrease and continual improvement in environmental performance.


All monitoring data shall undergo appropriate quality assurance/quality control (QA/QC) checks by the Asset/Project, be verifiable and be subject to audit.

9 REVIEW AND IMPROVEMENT

Any user of this document who encounters a mistake or confusing entry is requested to immediately notify the Document Custodian.

This document shall be reviewed as necessary by the Document Custodian, but no less frequently than every three years. Triggers for full or partial review of this document may include:

- Emerging/growing HSE concerns in specific areas;
- Changes in shareholder requirements and concerns of staff, Contractors, customers, Government agencies and the public;
- Changes in legislation and regulations;

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- Incident investigations which identify shortfalls in the HS&E Management System;
- Changing Company activities and locations;
- New hazards or activities not considered by the HSE Management System.

10 CHEMICALS MANAGEMENT

10.1 MINIMUM LEGAL REQUIREMENTS

Sakhalin Energy is committed to protect the health and safety of its staff, contractors and the environment. This commitment is reflected in its [HSE Commitment & Policy 0000-S-90-04-P-0027-00](#). As such Sakhalin Energy shall comply with:

- Applicable Russian Federation laws related to Chemical management;
- The Shell Group Global Environmental Standards (GES), 12 July 2006;
- Shell Group Design and Engineering Practice (DEP) documents.
- Shell Group Chemicals HSSE Management in E&P Operations.
- Rules for handling Chemical handling in exploration and development group of «Shell»

Addendum 4 is a list of Russian laws and regulations on Chemicals handling with a short description. Project groups / assets and contractors shall ensure compliance with all laws and regulations applicable to specific production assets or activities.

Wherever reasonable, Person responsible for selection of Chemicals shall select less toxic Chemicals and Chemicals with minimum residual impact in case of discharge to the environment (e.g., biodegradable, chlorine-free, etc.)

All assets shall have action plans for all Chemicals, used at the asset. Each Chemicals storage site shall have relevant spill clean-up equipment.

All Chemicals planned for discharge into water area shall have MPC approved for relevant water body. Approved MPC shall be specified in the Water Use License issued for a specific asset. The RF Green Book contains a list of all Chemicals with MPC for discharge into water body. In any case, concentration at the end of mixing area shall be less than MPC.

Flash point of Chemicals used at platforms shall exceed plus 61°C, for other SEIC assets above plus 28°C. Pour point of Chemicals shall be below minus 40 °C. Platform Chemicals shall not contain Methanol.

Some products may contain very toxic or health-risk Chemicals. Examples are the lead, chromium, asbestos, isocyan, coolants (Addendum 3) etc. According to the best industry practices, Sakhalin Energy prohibited to use all products with such components. The list of prohibited substances is not limited to the above substances.

Pursuant to ISO 2600, Chemicals prohibited by federal legislation and international conventions shall be systematically identified and, if possible, identify prohibited Chemicals identified by research institutes or other concerned organizations, and prevent their use. Also, Company shall identify methods to prevent application of such Chemicals by subordinate companies. The list of prohibited Chemicals includes but is not limited to ozone depletion substances; persistent organic pollutants and Chemicals described in the Rotterdam convention; hazardous Chemicals and pesticides (defined by World Health Organization).

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Should the requested Chemicals be not compliant with the above minimum requirements, the Request shall be rejected.

10.2 PROCEDURE FOR APPROVAL OF APPLICATION FOR CHEMICAL USE

Permitted to purchase and use at Sakhalin Energy assets only those Chemicals approved by Chemicals Approval Panel (CAP).


To obtain CAP approval, Chemical Selector shall first verify whether the Chemical was approved by applicable at Sakhalin Energy assets before. If the Chemical was earlier approved for other assets (with registration in the Approved Chemicals List) Chemical Selector shall request extension of CAP for specific asset. If the Chemical was **not approved** Chemical Selector submit to CAP Request for use of Chemicals (addendum 1) a with relevant documentation package stated in Clause 7.2.

After receipt of Request, CAP shall:

- Reviews correct completion of Request and attachments or revert to the Requestor for completion. If the requested Chemical is compliant with SEIC requirements, it shall be assigned a specific number for registration in the Approved Chemicals List.
- Notify Material Master on approval of Chemical and provide CAP number.
- Register MSDS and certificates for approved Chemical in the Dolphin database.

Here on the Chemical may receive Material Master code and purchase procedure may be initiated.

If the requested Chemical doesn't comply with Sakhalin Energy requirements COMPLIANT or is included in the list of toxic and dangerous Chemical substance from register REACH, refrigerant coolants (Attachment 3 to this Standard), or there is requested SAP number expanding for company assets with more severe physical and Chemical storage conditions in accordance with existing (flash-point, chilling point, presence of methanol in Chemical – Clause 2.1) request shall be rejected or MoC should be applied (Clause 5.2 [0000-S-90-01-P-0268-00-E](#)). The information about request rejection or MoC requirements should be provided in written form to the Chemical Selector and Request for Approval and attachments should be returned. Manager of oil-field chemistry Production Chemist shall register the event and reasons for rejection.

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APPENDIX 1: REQUEST FOR USE OF CHEMICAL

Chemical Nomination Form		
Chemical Selector		
Name		
Tel		
E-mail		
End User		
Name		
Position		
Chemical Details		
Product name		
Manufacturer/Supplier		
Function/Uses		
Assets to be use		
Container Type/Size		
New CAP Number		
New CAP	Yes	If Yes, for add any new chemical to approved chemical list order is following: Chemical Selector has to attach to the form next documents (preferable in "pdf" format): 1. MSDS Russian (obligatory in according to GOST 30333-2007); 2. MSDS English;
Expand and Replacement CAP Number		
Expand CAP	No	If Yes, Firstly check is any suitable Chemical already approved for any assets. Updated SEIC Approved Chemical List You will find on Sakhalin Energy Chemical Management Portal: < http://sww.sakhalinenergy.ru/seic/prd/support/Chem_mang.html > If approved for other Assets, inform asset for extend approve and MM(note: mention for which asset it is already approved)
Exising Assets		
Exising CAP number		
Exising MM		
Physical and Chemical Properties		
Flash point		Refer MSDS item 9. Flash point for offshore- < 61°C, other assets < 28°C. If PRODUCT DOESN'T meet - provide reason for product selection in the field below
Freeze point		Freeze point shouldn't be more than -40 C (for outdoor storage)
Methanol Content		For offshore - NO of methanol in the content
Reason selection of product which doesn't meet SEIC requirements		
Approvals Use only (Not be filled by the Chemical Selector)		
Approved	Initial	Date
Pr. Chemist		
Heaith		
Safety		
Environment		
Action	Initial	Date
CAL Update		
MSDS entered in Dolphin		
CAP		
Declined	No	
CAP number:		



APPENDIX 2: CHEMICALS SEGREGATED STORAGE RECOMMENDATIONS

Showing general recommendations for the separation or segregation of different classes of chemicals													
COMPRESSED GASES													
Flammable		KEEP APART	Segregate from or KEEP APART	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	Segregate From	ISOLATE	KEEP APART	KEEP APART	Separation may not be necessary <i>Separation may not be necessary, but systems should be considered about pressure requirements, in particular, unless containers may react, venting, operate or be struck if moved on mobile site, being</i>
Non-flammable/non-toxic		KEEP APART	KEEP APART	KEEP APART	Separation may not be necessary	Segregate From	Separation may not be necessary	Separation may not be necessary	Separation may not be necessary	Segregate From	Separation may not be necessary	KEEP APART	KEEP APART <i>Segregate from one by at least 1 metre in one particular with whichever is the greater, reasons in non-combustion packaging which are not explosive substances and which should be located may be stored in the separator area</i>
Toxic		Segregate from or KEEP APART	KEEP APART	Segregate From	KEEP APART	Segregate From	KEEP APART	Separation may not be necessary	Segregate From	Segregate From	Separation may not be necessary	KEEP APART	Segregate from <i>These combinations should not be kept in the same building area or within storage containers, compartment walls should offer at least 30 minutes fire resistance. Outdoor storage areas should be separated by adequate space</i>
Flammable Liquids		Segregate From	KEEP APART	Segregate From		KEEP APART	Segregate From	Segregate From	Segregate From	ISOLATE	KEEP APART	KEEP APART	ISOLATE <i>This is used for organic peroxides, in which a reduced building is recommended. Alternatively, one peroxide may be stored outside in the neutral room volume. In either case, adequate separation from other buildings and boundaries is recommended</i>
Flammable Solids		Segregate From	Separation may not be necessary	KEEP APART	KEEP APART		KEEP APART	Segregate From	Segregate From	Segregate From	KEEP APART	Separation may not be necessary	Segregate from or KEEP APART <i>The term oxidising refers to the oxidising character of gas contents, which may require flameless gases are enclosed in a robust separation distance may be reduced to 1 metre</i>
Highly Combustible		Segregate From	Separation may not be necessary	KEEP APART	KEEP APART		KEEP APART	Segregate From	Segregate From	Segregate From	KEEP APART	Separation may not be necessary	NOTE: Where a particular material has the properties of more than one class, the classification giving the most stringent segregation requirements should be used
Extremely Combustible		Segregate From	Separation may not be necessary	KEEP APART	KEEP APART		KEEP APART	Segregate From	Segregate From	Segregate From	KEEP APART	Separation may not be necessary	
Dangerous when Hot		Segregate From	Separation may not be necessary	KEEP APART	Segregate From	KEEP APART		KEEP APART	Segregate From	Segregate From	KEEP APART	Separation may not be necessary	
Oxidizing Substances		Segregate From	Separation may not be necessary	Separation may not be necessary	Segregate From	Segregate From	KEEP APART		Segregate From	Segregate From	KEEP APART	KEEP APART	
Oxidizing Substances		Segregate From	Separation may not be necessary	Separation may not be necessary	Segregate From	Segregate From	KEEP APART		Segregate From	Segregate From	KEEP APART	KEEP APART	
Organic Peroxides		ISOLATE	Segregate From	Segregate From	ISOLATE	Segregate From	ISOLATE	Segregate From	Segregate From	Segregate From	KEEP APART	KEEP APART	
Toxic Substances		KEEP APART	Separation may not be necessary	Separation may not be necessary	KEEP APART	KEEP APART	KEEP APART	Separation may not be necessary	KEEP APART	KEEP APART			Separation may not be necessary
Corrosive Substances		KEEP APART	KEEP APART	KEEP APART	KEEP APART	KEEP APART	Separation may not be necessary	KEEP APART	KEEP APART	KEEP APART	Separation may not be necessary		

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APPENDIX 3: RESTRICTED USE OF REFRIGERANT COOLANTS

According to Sakhalin Energy [Air Emissions and Energy Management](#) 0000-S-90-04-O-0257-00 with reference to the Montreal Protocol trichloroethane and chlorofluorhydrocarbons (Appendix A, Group I; Appendix B, Group I) and halons (Appendix A, Group II) are forbidden to be used.

Appendix A of Montreal Protocol: Regulated substances

Group	Substance	Ozone-depleting Potential*
Group I		
CFCl ₃	CFC-11	1.0
CF ₂ Cl ₂	CFC-12	1.0
C ₂ F ₃ Cl ₃	CFC-113	0.8
C ₂ F ₄ Cl ₂	CFC-114	1.0
C ₂ F ₅ Cl	CFC-115	0.6
Group II		
CF ₂ BrCl	halon-1211	3.0
CF ₃ Br	halon-1301	10.0
C ₂ F ₄ Br ₂	halon-2402	6.0

* The definitions of ozone layer depletion potential are estimative and based on up-to-date scientific data and are viewed and revised periodically.

Appendix B of Montreal Protocol: Regulated substances


Group	Substance	Ozone-depleting Potential
Group I		
CF ₃ Cl	(CFC-13)	1
C ₂ FCl ₅	(CFC-111)	1
C ₂ F ₂ Cl ₄	(CFC-112)	1
C ₃ FCl ₇	(CFC-211)	1
C ₃ F ₂ Cl ₆	(CFC-212)	1
C ₃ F ₃ Cl ₅	(CFC-213)	1
C ₃ F ₄ Cl ₄	(CFC-214)	1
C ₃ F ₅ Cl ₃	(CFC-215)	1
C ₃ F ₆ Cl ₂	(CFC-216)	1
C ₃ F ₇ Cl	(CFC-217)	1.07
Group III		
C ₂ H ₃ Cl ₃ *	1,1,1 - trichloroethane (methyl chloroform)	0.1

Also, the Company is obliged to stop the usage of hydrofluorocarbons (Appendix C, Group I) by 2020.



Appendix C of Montreal Protocol: Regulated substances

Group	Substance	Number of isomers	Ozone-depleting Potential
Group I			
CHFCl ₂	(HCFC-21)**	1	0.04
CHF ₂ Cl	(HCFC-22)**	1	0.055
CH ₂ FCl	(HCFC-31)	1	0.02
C ₂ HFCl ₄	(HCFC-121)	2	0.01-0.04
C ₂ HF ₂ Cl ₃	(HCFC-122)	3	0.02-0.08
C ₂ HF ₃ Cl ₂	(HCFC-123)	3	0.02-0.06
CHCl ₂ CF ₃	(HCFC-123)**	-	0.02
C ₂ HF ₄ Cl	(HCFC-124)	2	0.02-0.04
CHFClCF ₃	(HCFC-124)**	-	0.022
C ₂ H ₂ FCl ₃	(HCFC-131)	3	0.007-0.05
C ₂ H ₂ F ₃ Cl ₂	(HCFC-132)**	4	0.008-0.05
C ₂ H ₂ F ₃ Cl	(HCFC-133)	3	0.02-0.06
C ₂ H ₃ FCl ₂	(HCFC-141)**	3	0.005-0.07
CH ₃ CFCl ₂	(HCFC-141b)**	-	0.11
C ₂ H ₃ P ₂ Cl	(HCFC-142)	3	0.008-0.07
CH ₃ CF ₂ Cl	(HCFC-142b)**	-	0.065
C ₂ H ₄ FCl	(HCFC-151)	2	0.003-0.005
C ₃ HFCl ₆	(HCFC-221)	5	0.015-0.07
C ₃ HF ₂ Cl ₅	(HCFC-222)	9	0.01-0.09
C ₃ HF ₃ Cl ₄	(HCFC-223)	12	0.01-0.08
C ₃ HF ₄ Cl ₃	(HCFC-224)	12	0.01-0.09
C ₃ HF ₅ Cl ₂	(HCFC-225)	12	0.01-0.08
CF ₃ CF ₂ CHCl ₂	(HCFC-225 ca)**	12	0.01-0.09
CF ₂ ClCF ₂ CHClF	(HCFC-225 cb)**	-	0.033
C ₃ HF ₆ Cl	(HCFC-226)	5	0.02-0.10
C ₃ H ₂ FCl ₅	(HCFC-231)	9	0.05-0.09
C ₃ H ₂ F ₂ Cl ₄	(HCFC-232)	16	0.008-0.10
C ₃ H ₂ F ₃ Cl ₃	(HCFC-233)	18	0.07-0.23
C ₃ H ₂ F ₄ Cl ₂	(HCFC-234)	16	0.01-0.28
C ₃ H ₂ F ₅ Cl	(HCFC-235)	9	0.03-0.52
C ₃ H ₃ FCl ₄	(HCFC-241)	12	0.004-0.09
C ₃ H ₃ F ₂ Cl ₃	(HCFC-242)	18	0.005-0.13
C ₃ H ₃ F ₃ Cl ₂	(HCFC-243)	18	0.007-0.12
C ₃ H ₃ F ₄ Cl	(HCFC-244)	12	0.009-0.14
C ₃ H ₄ FCl ₃	(HCFC-251)	12	0.001-0.03
C ₃ H ₄ F ₂ Cl ₂	(HCFC-252)	16	0.005-0.04
C ₃ H ₄ F ₃ Cl	(HCFC-253)	12	0.003-0.03
C ₃ H ₃ Cl ₂	(HCFC-261)	9	0.002-0.02
C ₃ H ₅ F ₂ Cl	(HCFC-262)	9	0.002-0.02
C ₃ H ₆ FCl	(HCFC-271)	5	0.001-0.03

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APPENDIX 4: LEGISLATION AND SAKHALIN ENERGY REQUIREMENTS

The main Russian Federation laws and regulatory requirements that address Chemicals management are described below. This list is not considered comprehensive and it shall be the responsibility of Project / Asset Teams and Contractors to ensure compliance with the laws, regulations and legal requirements that apply to specific facilities or activities.

Federal Law On Sanitary and Epidemiological Welfare of Population, No. 52-FZ, dated 30 March 1999 (in the latest revised edition of 23/06/2014 # 171-FZ)

This law states that potentially dangerous Chemical and biological substances and certain types of products are allowed for production, transportation, purchase, storage, sale and use after their state registration (item 14).

Custom Union Agreement On Sanitary Measures (became effective July 1, 2010)

In accordance with this agreement “Import and handling of controllable goods is carried out if there is supporting document, confirming products (goods) safety”.

Custom Union Decree About Usage of Sanitary Measures in Custom Union, dated June 18, 2010 # 299

The decree stated single forms of documents, confirming products (goods) safety. Certificate of State Registration is considered to be single form of documents. The decree stated list of Chemicals entitled to State Registration.


State Registration of Potentially Hazardous Chemical and Biological Substances, approved by Decree of RF No. 869, dated 12 November 1992

This decree of the Russian Federation Government requires that all Chemical substances, including those composing of mixed products produced and applied on the territory of the Russian Federation and also imported from foreign countries shall be registered in the Russian Register of Potentially Hazardous Chemical and Biological Substances.

Once a Chemical has been registered in Russia, it can be imported, stored, transported and used within the Russian Federation. It may not, however be discharged into a water body without an approved MPC (maximum permissible concentration) value. If the Chemical is not associated with a discharge then an MPC is not required. See the Standard for Aqueous Discharges to Land & Water (see note in section 3 ref change to document name – Water Use and Discharges) for more details on the development of MPCs.

The Russian ‘Green Book’ contains a list of all Chemicals with MPCs.

RF Government Decree About Statement Of Regulation About Federal Agency Services In the Field Of Protection of Consumers and Human Welfare, dated 30 June, 2004 (with modification from 23.05.2006, 14.12.2006, 29.09.2008, 7.11.2008, 8.08.2009, 20.02.2010, 15.06.2010)

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In accordance with this agreement Federal Agency Services in the Field of Protection of Consumers and Human Welfare (Rospotrebnadzor) is considered to be entitled federal executive branch authority, performing control and supervision in the field of sanitary and epidemiological human welfare, protection of consumers and consumer market and registers initially used in production and not used before potentially dangerous to human health Chemical substances, biological substances and products prepared on the basis of Chemical and biological substances.

Draft Federal Law # 261818-5 “Technical Regulation” On Chemical Products Safety”

In accordance with the law MSDS is considered to be mandatory component of technical documentation for Chemical products and is prepared before beginning of Chemical products usage.

Protection of the Environment, Russian Federation Law No. 7-FZ, dated 10 January 2002 with modification from 22.08.2004, 29.12.2004, 09.05.2005, 31.12.2005, 18.12.2006, 05.02.2007, 26.06.2007

This is the overarching legislative instrument applicable to the environment and outlining Governmental authority for its protection. It describes the ecological requirements for the siting, designing, building, reconstructing, commissioning and operation of enterprises, structures and other facilities. The Law addresses the basic principles of environmental protection and the rational use of natural resources and forms the foundation for further environmental legislation and regulation respecting land use, water resources, forests, mineral resources, ambient air protection and waste management. It also requires that MPCs be established for harmful substances contaminating water bodies.

Water Code of the Russian Federation, No. 167-FZ, dated 16 November 1995 with modification from 30.12.2001, 24.12.2002, 30.06.2003, 23.12.2003, 22.08.2004, 29.12.2004, 09.05.2005, 31.12.2005

The Water Code contains requirements relating to water use and wastewater discharges. It specifies that use of a water body is subject to the terms and conditions of a water use licence that provides limits on water consumption, wastewater discharge and maximum allowable detrimental effect on water bodies. It includes constraints relating to impacts on groundwater. It also requires that payments be made for the use of water bodies.

Federal Law on Production and Consumption Wastes # 89-FZ of 24.07.1998

This Federal Law is a principle legislation which regulates management of production and consumption wastes for the purpose of preventing impact of production and consumption wastes on human health and environment, involvement of such wastes as additional source of raw materials.

Federal Law On Industrial Safety of Hazardous Production Facilities # 116-FZ of 21.07.1997 (# 15-FZ as amended on 10.01.2003 г., # 122-FZ as amended on 22.08.2004, # 45-FZ as amended on 09.05.2005)

Federal law on Fire Safety # 69-FZ of 21.12.1994 г. (as amended on 22.08.1995 # 151-FZ, # 32-FZ of 18.04.1996, # 13-FZ of 24.01.1998, # 135-FZ of 07.11.2000, # 110-FZ of 06.08.2001, # 196-FZ of 30.12.2001, # 116-FZ of 25.07.2002, # 82-0 of 09.04.2002, # 15-FZ of 10.01.2003, # 38-FZ of

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10.05.2004, # 58-FZ of 29.06.2004, # 122-FZ of 22.08.2004, # 27-FZ of 01.04.2005, # 45-FZ of 09.05.2005, # 19-FZ of 02.02.2006, as amended on 27.12.2000 # 150-FZ).

International Standard GOST 30333-2007 Materials Safety Data Sheets

The standard states main Chemicals Materials Safety Data Sheets (MSDS) structure, content, data presentation and formatting requirements.

MSDS is considered to be mandatory part of technical documentation for Chemicals (substance, mixture, material, industrial waste) and has to provide consumer with accurate data regarding industrial use, storage, transportation and disposal safety and regarding household use.

MSDS should contain a clear summary so that consumer could take measures in order to provide human health safety and safety at work, environment protection, including Chemicals disposal.

International Standard GOST 30773-2001 Resource-saving. Waste management. Technology cycle stages. Main Statements

The standard states consequent technology cycle stages of production and consumption waste, which also originate from burned-out, old and discarded types of production (objects).

The standard also considers waste to be liquidated at the last stage of production life cycle, appearing during production, construction and agriculture, from domestic household and municipal services.

The standard does not consider management of radioactive waste, biowaste, medical and preventive treatment facility waste and military assets after end of service life and taking out of service.

The standard is to be taken into consideration when preparing documentation regarding liquidation of any objects. The standard is intended for enterprises, organizations, associations of enterprises and federal authorities and regional agencies which have a direct relationship to the liquidation of objects in order to provide environment protection (GOST-R ISO 14050).

Another GOST Standards:

GOST 17.1.3.02-77. Rules of protection of waters from pollution during drilling and development of sea wells for oil and gas

GOST 51.82-82. Environmental Protection. Rules of environmental protection during collection, preparation and transporting of well products at offshore oil and gas fields


GOST 51.1.06-85. Rules for utilization of waste products of offshore oil and gas extraction.

GOST 19.4.33.08. Rules for Classification and Marking of Dangerous Cargoes

GOST 12.1.004-91 UDK 61484:006.354 Group T53 – General Requirements for Fire Safety.

GOST 1510-84. Oil and oil products. Marking, packaging, export, and storage.

GOST 3885-73. Chemicals and high-purity substances. Rules for acceptance, filling,

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packaging, marking, transportation and storage.

GOST 9980.5-2009. Paint and coating materials. Transportation and storage.

Ministerial and Regulatory Decrees:

List of Goods that Required Obligatory Certification upon their Delivery to the Customs Territory of the RF as given in the letter GTK RF N01-06/51479 of 27.12.01 (N01=06/15561 in revised edition 17.04.2002)

Rules of Transporting Hazardous Cargoes By Motor Transport approved by order N73 of Ministry of transport of RF 08.08.1995 (N 77 of revised edition 14.10.99)

Safety Rules on Transportation of Hazardous Cargoes by Railway Transport approved by decree N50 of GOST 16.08.94

Rules of Safe Carriage of General Cargoes by Sea NTU-3-48/586. Ministry of Navy of RF.

"Certification of Production and Services" N5151-1 dated 10.06.1993 (latest version N116-FZ 25.07.2002)

Order of the Russian Federation Ministry of Internal Security of December 14, 1993, № 536 "On Enactment of Fire Safety Regulations in the Russian Federation"

SEIC Policies	SAKHALIN ENERGY COMMITMENT AND POLICY ON HEALTH, SAFETY, ENVIRONMENT AND SOCIAL PERFORMANCE	0000-S-90-04-P-0027-00
SEIC HSE Standards	Water Use Standard	0000-S-90-04-O-0255-00
	Wastes Management Standard	0000-S-90-04-O-0258-00
	Loads Transported by Road	0000-S-90-04-O-0285-00
	Air Emissions and Energy Management Standard	0000-S-90-04-O-0257-00
	Incident Reporting and Follow-Up Standard	0000-S-90-04-O-0020-00



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SEIC HSE Procedures	<p>Oil and Chemicals Spill Action Plans</p> <p>Guidelines on Chemicals Warehousing (Requirements to Warehouse Structure)</p> <p>Guidelines on Chemicals Warehousing (Requirements to Chemicals Handling)</p> <p>Waste Management Planning</p>	<p>ER Plans</p> <p>1000-S-90-01-P-0396-00</p> <p>1000-S-90-01-P-0414-00</p> <p>0000-S-90-04-P-0088-00</p>
Other SEIC documents	<p>Corporate Document Control Procedure</p>	<p>0000-S-90-01-P-0078-00</p>
Shell documents	<p>Minimum Environmental Standards for E&P replaced by Shell Global Environmental Standards, July 2007.</p> <p>Shell Standard on animal tests</p>	<p>SIEP 21 March 2003</p>