

# World Safety Organization NEWSLETTER



WSO Memberships & Certifications are accredited by ICAC



February 2022

## SODIUM HYDROXIDE - ACCIDENTAL SPILLAGE MANAGEMENT IN DESALINATION PLANT

Er JAYANDRAN MOHAN., M Tech, B Tech, HDPE, CMIOOSH, RSP, SIIRSM Petrochemical Engineer & Internal HSE Auditor  
Process Safety Consultant, OHSE Practitioner, & OHSE Trainer

Sodium hydroxide (NaOH) is sometimes called caustic soda or lye. At room temperature, sodium hydroxide is a white, odorless solid. Liquid sodium hydroxide is colorless and has no odor. It can react violently with strong acids and with water. Sodium hydroxide is corrosive. NaOH can react with moisture from the air and may generate heat as it dissolves. This heat can be enough to cause a fire if it is near flammable materials. It has been used in the Desalination Plant to adjust pH of the water. It raises the pH of water by absorbing water and carbon dioxide. The legal airborne permissible exposure limit (PEL) is 2 mg/m<sup>3</sup> averaged over an 8-hour work shift.

### HARMFUL EFFECTS OF SODIUM HYDROXIDE

Sodium hydroxide is a potentially dangerous substance. It can hurt you if it touches your skin, if you drink it or if you breathe it. Eating or drinking sodium hydroxide can cause severe burns and immediate vomiting, nausea, diarrhea or chest and stomach pain, as well as swallowing difficulties. Damage to the mouth, throat and stomach is immediate. Breathing it can cause severe irritation of the upper respiratory tract with coughing, burns and difficulty breathing. The harmful effects of sodium hydroxide depend on several factors including the concentration of sodium hydroxide, length of time exposed, and whether you touched it, drank it or inhaled it.

Contact with very high concentrations of sodium hydroxide can cause severe burns to the eyes, skin, digestive system or lungs, resulting in permanent damage or death. Prolonged or repeated skin contact may cause dermatitis. Repeated inhalation of sodium hydroxide vapor can lead to permanent lung damage. The main routes of exposure: Inhalation: Not expected to be an inhalation hazard unless it becomes an airborne dust or mist. Can cause severe irritation of the nose and throat. Skin Contact: CORROSIVE. Contact can cause pain, redness, burns, and blistering. Permanent scarring can result.

A severe exposure can cause death. Burns may not be immediately painful; onset of pain may be delayed minutes to hours. Eye Contact: CORROSIVE. Contact causes severe burns with redness, swelling, pain and blurred vision. Permanent damage including blindness can result. Ingestion: Can burn the lips, tongue, throat and stomach. Symptoms may include nausea, vomiting, stomach cramps and diarrhea. Can cause death. Effects of Long-Term (Chronic) it can cause dry, red, cracked skin (dermatitis) following skin contact.

### SAFE HANDLING PRECAUTIONS

Follow all precautions and instructions on product labels. Keep cleaning products in their original packaging. Wear latex or nitrile gloves when using products containing high concentrations of NaOH. Wear long sleeves and pants that cannot be degraded or deteriorated by sodium hydroxide to protect your skin. Remove clothes carefully if they get wet to avoid spreading the sodium hydroxide on your skin. The First Aid procedure as follows: Inhalation: Move victim to fresh air; Eye/Skin Contact: Immediately flush with lukewarm, gently flowing water for at least 30 minutes. Ingestion: Have victim rinse mouth with water. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration.



(cont. on pg. 3)

from the desk of  
**DR. CHARLES H. BAKER**

*Chief Operations Officer*



Welcome to the World Safety Organization February Newsletter. I hope this issue finds you healthy and safe. A lot is going on around the world. In the US we have had severe weather problems almost on a weekly basis. In some areas we are seeing weather conditions not seen before.

We hope if you are in these areas, you exercise caution and use safe practices. We can only hope spring will soon be here.

In other parts of the world, we are seeing conflict as disagreements between countries become the norm. Hopefully, you are not in these areas, but if you are, we hope you also exercise due caution. I recently attended an ICAC Board of Directors Meeting. (ICAC provides our accreditation. ) I wanted to remind you of that accreditation and hope it continues to be of use to you. Being accredited is important to our professional standing. If anyone has questions on the ICAC accreditation, I encourage you to contact the WMC.

We have watched Covid very closely, especially regarding our annual symposium. Presently it looks like Covid is slowing down and we have plans to hold our symposium in the fall in Las Vegas. After a couple of years of cancellations, it will be good to get together face to face. Soon, you will see notices of dates and we hope you plan to attend. Mark your calendar and watch for further information. Again, if you have questions, please contact the WMC.

Thank you everyone for your memberships and certifications. Continue to tell your work and business associates about the value of a WSO membership and certification.

Be safe!

CHB

# WE NEED YOU

*Do you blog?*

*Do you write articles for your company's newsletter?*

*Do you have relevant information to share?*

*Did your company or agency sponsor a special safety-focused event?*

*Does your company or agency have an upcoming safety-focused event you wish to promote?*

*If so, we would love to feature your content in a future WSO NewsLetter or TechLetter!*

*Just email your article/ blog, author(s) byline, brief bio, and photo to us: [editorialstaff@worldsafety.org](mailto:editorialstaff@worldsafety.org)*

*Please request a publication release form if required by your employer or co-author(s). Authors/ Companies will maintain all proprietary rights, and WSO will state where the original content was posted or published, if applicable.*

The WSO NewsLetter is Published by WSO WORLD MANAGEMENT CENTER 106 W Young St #F, Warrensburg, Missouri 64093 USA | +1 (660) 747-3132 | [info@worldsafety.org](mailto:info@worldsafety.org) | [editorialstaff@worldsafety.org](mailto:editorialstaff@worldsafety.org) | <https://worldsafety.org>

Statement of Publishing Policy/Publisher: World Safety Organization Inc., World Management Center, 106 W. Young St, Warrensburg, Missouri 64093 USA. Editorial Board: Dr. Lon S. McDaniel WSO-CSE/CSS/CHMS/CSI(ML), Dr. Charles H. Baker, Dr. Zdena Zajickova-Hudson, and Dr. Michael L. Thomas WSO-CSE. The WSO NewsLetter (ISSN 1070-311X) is published by the World Safety Organization for its members and other interested individuals involved in environmental and occupational safety and health, security, public health, transportation, construction, and related professions. Copies are distributed to Missions of the United Nations, Libraries, WSO members, attendees of conferences/ seminars and other interested individuals. The information, data and comments contained in this publication do not necessarily reflect the opinion of the WSO or its policies and programs. Data, articles, etc., offered for this publication, are provided only for information purposes and the WSO is not responsible for the accuracy of content and data in this publication. ©2020, WSO.



# SODIUM HYDROXIDE - ACCIDENTAL SPILLAGE MANAGEMENT IN DESALINATION

## PLANT *Continued from cover*

Er JAYANDRAN MOHAN., M Tech, B Tech, HDPE, CMIOOSH, RSP, SIIRSM Petrochemical Engineer & Internal HSE Auditor  
Process Safety Consultant, OHSE Practitioner, & OHSE Trainer

### ACCIDENTAL SPILLAGE/LEAK MANAGEMENT

Safety Data Sheet to be referred and suggested emergency spillage handling methods to be followed. Personal Precautions: Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use personal protective equipment as required. Remove or isolate incompatible materials as well as other hazardous materials. Methods for Containment and Clean-up: Contain and soak up spill with absorbent that does not react with spilled product. Shovel or sweep dry sodium hydroxide for recycling or disposal. Flush spill area.

### SPILLAGE MANAGEMENT TRAINING

Being an OHSE Practitioner, I got an opportunity to train the work force to manage accidental leak of Caustic Soda liquid. On 13 December 2021, around 11am, in the desalination facility, to flush up the caustic soda tank as a routine regular maintenance activity, the Caustic soda liquid has been transferred from the tank to neutralizer drain through hose. Three hoses have been connected from the tank to the neutralizer. Near the first hose junction, Caustic Soda has been started to leak and spread over the work area. To deliver the training session, I approached the area. On observing the leak, I instructed the Maintenance team to switch off the pump immediately so as to stop the flow of caustic soda liquid. The Chemical emergency handling team has been informed and the Emergency spillage management has been initiated with spill kit as below:



2. Spill has been contained



3. Spill absorbed using Soak Pads



4. After Cleanup, Flushed with Water to the Designated Neutralizer line

## ABOUT THE AUTHOR

JAYANDRAN MOHAN – a pursuing Doctorate in Safety research scholar having Master degree Industrial Safety Engineering with specialization in Petrochemical Engineering holds NVQ Level VI Diploma in Safety, ISO 45001 & 14001 Internal Auditor with international membership like CMIOOSH, RSP and SIIRSM.

He has 19+ years of Occupational Health, Safety and Environment experience in Petrochemical, Soap oil plant and Construction sites. He involved in site safety implementation & monitoring, incident investigation, internal auditing, process safety consulting, EHS Software testing and in delivering OHSE trainings like NEBOSH IGC, IDIP NEBOSH, IOSH MS Fire Safety, H2S Safety, Chemical Handling, Emergency Chemical Incident Management, COVID Disinfection and other OHSE related trainings. He is a Chartered Member in IOSH, Specialist Member in IIRSM, Affiliate member in ICOH, Life Time member in IAOH, Affiliate & BOD in WSO, Member in SOCI & ANZMH and attending webinars, CPDs to keep himself updated. He has trained 1600+ HSE aspirants of more than 4800+ Tutoring hours in NEBOSH IGC. He has written 22 OHSE Articles and it has published in various national & international HSE magazines. He has published two books related to Safety Management and Tutoring. His research paper Bio Gas Plant HAZOP Study has been published in Journal of Safety Engineering – Jul 2018. His research related to Corrosion Simulation published in three SCOPUS Indexed research journals on July 2019. He actively participates as technical speaker, research poster presenter, abstract peer reviewer and judge in various conferences like UBM OSH Conferences, ICOH Congress, ECRES Conference, ICDMC Conference, IETOX and WSO Symposium. He recognized with WSO Educational Award 2018, IARDO Research Award 2018. Global Safety Summit Best Safety Trainer Award 2018-19, WSO Scientific R & D Award 2019, Donald E. Rhodes Honorable Certificate 2020 and WSO Concerned Professional Award 2021 for his excellence in OHSE training and Research Studies.



# A SENSITIZATION VISIT TO THE CRADLE MONTESSORI SCHOOL BENIN CITY, NIGERIA

Peculiar Olotu



The Cradle Montessori school is one nursery and primary schools in the city of Benin, Nigeria. It is a Christian school with a mandate to build up students with biblical standards to be world class leaders with the right values. On the 7th of January 2022, the WSO Nigeria office mobilized men and materials to the prestigious school in Benin city for a safety and emergency response sensitization.



Amb. Ogheenetejiri Ovwigho-Ugbede introduced the team and facilitated the intensive 2hours sensitization. The event started at about 11:30am with 60 participants consisting of parents and teachers. The lecture was educative and very exciting for the parents and teachers who actively participated in both the theory and practical sessions.

The training was majorly on:

1. Fire safety
2. How to prevent a fire
3. How to extinguish a fire
4. The muster point.
2. Cardiopulmonary Resuscitation (CPR)
3. How to carryout out CPR
4. How to check for breathing
5. The recovery position.



At the end, a few questions were asked, and answers provided. The management, teachers and students could not hide their excitement as they showed appreciation to the team and The World Safety Organization.





# Donald Scott Masters

October 30, 1962 - January 19, 2022



## ***Donald Scott Masters, 59, of Marietta, passed away Wednesday, January 19, 2022, at Greenville Memorial Hospital.***

Born in Greenville County, he was a son of the late Donald Leon Masters and Margaret Bryant Alverson. He was a safety manager with Alliant Corp., a member of Ebenezer Lodge 101, and of the Baptist faith. He is survived by his wife of 41 years: Gayleen Honaker Masters; sons: Christopher Leon Masters(Jessica), Donald Scott Masters, Jr.(Kimberlee); grandchildren: Crandon Robert Masters, Madison Ann Butler, Donald Thomas Norwood Masters; brothers: Alan Masters(Tammy), Steve Alverson(Tammy), Lonnie Alverson; and sister: Kim Masters Feltman(Greg). The family will receive friends Thursday, January 27, 2022, from 1pm until 2pm at The Howze Mortuary. Funeral

services will be Thursday, January 27, 2022, at 2pm at The Howze Mortuary Chapel with entombment to follow at Mountain View Memorial Park.

In lieu of flowers memorials may be made to Shriner's Hospital For Crippled Children, 950 W. Faris Rd. Greenville, SC 29605.

"Scott joined Alliant in Greenville, SC as the leader of an in-place construction safety oversight team in December 2017 when Alliant was selected by BMW Manufacturing Inc. to provide construction safety oversight services across BMW's 7 million square foot plant in Greer, SC. Scott was a highly regarded safety professional across the Greenville, SC region, an important resource to BMW based upon his sixteen years of experience overseeing a wide array of construction activities at the plant, a recognized writer in national safety journals, a trusted colleague, and an outstanding Alliant project leader. Scott was always very proud of his association with the WSO, and I frequently heard him talk about WSO and share with me the many newsletters he contributed to. But more than being a safety professional, Scott was a cherished son, father, husband, grandfather and friend who blessed many lives. Always upbeat, always motivated to get it right and always ready to share a laugh and catch up, Scott will be sorely missed by all who knew him. Please keep Scott and his family in your thoughts and your prayers, and please pull your loved ones a little closer."

-Terence A. Douglas, CIH, CSP, ROH  
President



The WSO World Management Center and Board of Directors would like to express our sincere condolences to Scott's family and friends during this difficult time. Scott had a monthly column in our Newsletter, "Scott's Safety Share". He was a distinguished member of our organization and contributed much over the years. We will miss him and the knowledge he shared with all of our members worldwide.



# WSO Ambassador Investiture

NYSC Headquarters, Maitama, Abuja FCT, Nigeria

11 January 2022

The World Safety Organization has signed a Memorandum of Understanding with the National Youth Service Corps (NYSC) on the need to create more awareness on safe living habit and good environment for all Nigerians.



The Director, World Safety organization, Nigeria, Mr. Soji Olalokun during the signing of the MoU at the NYSC National Directorate Headquarters in Abuja, said the partnership would provide capacity building in health, safety, security, environment, emergency preparedness and response, accident prevention technology, among others for Corps volunteers.

He said the safety emergency response readiness is aimed at equipping Nigerians to create safe living habits at workplace, schools and in all public places.

*"The World Safety Organization is crafted to add success to the Scheme through every Corps volunteer. It intends to collaborate and facilitate a two-day 'Train the Trainers' activity during the Orientation Camp for at least, One Hundred (100) Corps Volunteers who will be posted to fifty schools in pairs, within the benefiting pilot states of Nasarawa, FCT, Rivers, Edo, Lagos and Ondo, with the hope to cover the remaining states in subsequent streams and deployment", Mr. Soji said.*



The Director WSO Nigeria, had earlier commended the NYSC Director-General, Major General Shuaibu Ibrahim for his transformation strides in the NYSC and described the Scheme as a potent medium for national development.

The NYSC DG, who spoke through the Director, Legal Services, Barrister Tijani Ibrahim assured of the Scheme's support towards ensuring the success of the partnership.

Major General Shuaibu Ibrahim, Director, Legal Services - Barrister Tijani Ibrahim, Director, Community Development and Special Projects (CDS & SP) - Alhaji Abdulrasaq Salawu, Acting Director, Special Duties - Alhaji Musa Abubakar, Dick-Iruenabere Ufuoma (Mrs) - Deputy Director, Scheme Collaboration Division, CDS & SP and Iruma Blessing Ekene, Assistant Director CDS & SP were decorated as World Safety Organization Ambassadors during the event.

(cont. on pg. 7)



Presentation of WSO Honorary Membership certificate to the DG NYSC Major General Shuaibu Ibrahim by the Director, WSO Nigeria, Mr. Soji Olalokun



**The cardinal objectives by this relationship (NYSC - WSO SafERR Special Project):**

1. Safety and Emergency Response Ready message will get to the grassroots faster, because of the widespread of the NYSC Corps members.
2. WSO SafERR vision for 2025, also in line with SDG's goal will be further accelerated.
3. NYSC - World Safety, SafERR School clubs will be established in schools and sustained.
4. NYSC - World Safety CDS Group created Nationwide.
5. Increased SafERR Project Volunteers across Nigeria is birthed (helping in making safety a way of life...), while unlocking their inert potentials - participating in the project, for a greater future.
6. Sustained National Development; Youth Leadership Development is enshrined in all these activities.



*(Cont. on pg. 8)*





Presentation of Complimentary Plaque by DG  
NYSC Maj Gen Shuaibu Ibrahim to the Director,  
WSO Nigeria, Mr. Soji Olalokun



Group photograph with NYSC DG and Staff



Some WSO Ambassadorial delegates at the event (from R  
to L Amb. Ifechukwu Enweani, WSO Director, Amb. Soji  
Olalokun, Amb. Franka Okwesa, Amb. Theresa Ajiboye,  
Amb. Emmanuel Abayowa)

In his closing remarks the WSO Director, Mr. Soji Olalokun expressed his heart felt appreciation to the WSO delegates for being part of this glorious event. According to him, the road of success is endless for all stakeholders (our beloved country Nigeria, NYSC, Volunteers, Project Partners/Sponsors, Project beneficiaries "communities, families, individuals"... and WSO)!

On behalf of the WSO Nigeria Team, SafERR Project Team, SafERR Ambassadors..., And the Abuja Team...he expressed his thanks to everyone for the support all through. In his remarks he said, who you are makes the difference. He also made a special big thank you to the entire team of the NYSC, under the visionary leadership of our Esteemed Project Grand Ambassador, Maj Gen (Amb.) Shuaibu Ibrahim, thanking them for the opportunity of touching lives everywhere! He said this has opened more doors of opportunities for every volunteer that would sign up...

He said, Posterity will definitely recall this day in history. Promoting Health & Safety, Saving Lives Everywhere.



# HELM Fertilizer Terminal US Locations Secure SHARP Status

James Hinton, LSP, GSP, CSM, CHMM

Corporate Director HSE/RC Americas, Americas Responsible Care Leader, Strategic Projects & Operations

In January of 2019, Mr. Scott Shirk assumed the role of President and CEO of HELM Fertilizer Terminal, Inc. Having a diverse background in ports, maritime, and terminal operations as well as Health, Safety, and Environmental requirements (HSE), he immediately recognized the need to improve HSE compliance and set out to hire a full-time Occupational Health & Safety and Environmental Manager for HELM Terminals within the United States. This was fully supported by HELM executive leadership and the Board of Directors.

Mr. James Hinton was selected to help Mr. Shirk get the company not only fully compliant, but also to “best in class” standards. Immediately, they worked together to create a new HELM 8-point Health and Safety Program. Within six months, it was written, policies were established, and the plan fully implemented. As with any new program, change takes time and “buy in” does not come easy! The efforts of HELM teammates was nothing short of impressive.

By early 2020 HELM teammates had fully embraced the program and each terminal made amazing strides in adherence to the program. Working safely became the norm, not simply a catchphrase. At this time, the leadership team decided that our teammates needed to be rewarded for their efforts in creating and maintaining a new safety culture within the organization. The management team decided the best way to accomplish this was to work with OSHA voluntary consultation service and get all HELM terminals accredited through the OSHA Safety & Health Achievement Recognition Program (SHARP). Participation in this program is voluntary and it recognizes businesses like HELM who have utilized OSHA's On-Site Consultation Program services to operate successful safety and health programs. Acceptance of HELM Fertilizer Terminal's U.S. locations into the SHARP is an achievement of status that singles HELM out among their business competitors as a model for worksite safety and health.



Helm Fertilizer Terminal Inc, Memphis, Tennessee

*“OSHA's On-Site Consultation Program is the agency's primary program for providing business owners no-cost consultation services to address hazards and improve workplace safety and health without fear of citations or monetary penalties. These programs are funded by OSHA and run by state grantees that are knowledgeable about the needs of the businesses they serve.”*

*(cont. on pg. 10)*



*continued from page 9*

By achieving SHARP status at all U.S.-based HELM Fertilizer Terminal locations, HELM has placed itself in an elite group of businesses that maintain exemplary safety and health programs. HELM benefits from being granted an exemption from OSHA programmed inspections for up to two years and subsequent renewal for up to three years HELM also benefits from the by:

**Additional worksite Employee Protection:**

- Help Protect workers from all safety and health hazards that may exist at your workplace.
- HELM works hand in hand with OSHA to identify and implement best practices to protect HELM employees, visitors, and contractors on HELM sites.
- Helps HELM develop innovative safety and health programs for HELM that will protect our employees, visitors, and contractors.

**Helps Create a Strong Safety oriented Culture:**

- Help Create a better working environment free of safety and health hazards for HELM employees, visitors, and contractors on HELM sites.
- Help boost worker morale by involving employees in creating a culture that emphasizes a safe and healthful workplace.
- Help Improve communication among workers and management Teams.
- Help encourage safety in the community as workers may transfer safe and healthy work practices outside of the workplace.

*(cont. on pg. 11)*



Helm Fertilizer Terminal Inc, Alexandria, Louisiana



*continued from page 10*

## **Helps in Building a Sustainable Reputation for HELM:**

- Gives the Terminal Teams high-level Official National Recognition from OSHA for their achievement of SHARP status and for maintaining exemplary safety and health programs at the Terminals.
- Help HELM Fertilizer Terminals become a leader in our industry by providing a safe and healthy workplace for our Terminals above and beyond the OSHA Minimum requirements.
- Providing such employee involvement and promoting Health and Safety in our Terminals has helped Attract skillful workers looking to join a business that is at the forefront of its industry in providing a a safe and healthy workplace for our Team members.

## **The Program also has helped in Saving Money:**

- The reduction in work related injuries and illnesses helps in Lowering worker compensation insurance premiums, and other insurance coverages as well.
- Helps Improve our worker retention and reduce costly turnover.
- Helps Reduce worker days away from work to keep operations and production running smoothly.

HELM Fertilizer Terminal, Inc. currently Operates three terminals in Memphis TN, Helena AR, and Alexandria LA. These Terminals are all SHARP Accredited and have been since 2020. HELM Fertilizer Terminals Inc. is the Only U.S. Terminal company to currently have ALL U.S. locations participating and holding SHARP accreditation within the U.S. and we pride ourselves in this accomplishment.



Helm Fertilizer Terminal Inc, Helena, Arkansas



# SAVE THE DATE

## 34<sup>th</sup> Annual WSO International Environmental & Occupational Safety & Health Professional Development Symposium

2-5 October 2022  
Tuscany Suites & Casino  
Las Vegas, Nevada USA



## WSO Offers a Professional Membership Level

Being acknowledged as a Professional Member of a safety organization based upon one's education, years of knowledge, and experience in the Safety field is a goal for many to achieve. Not everyone has the college or university degree that is sometimes required to compete for an advanced level Occupational Safety Certification. Not everyone enjoys the Classroom environment of classroom training and potentially taking the computer-type exam, which does not always show one's true abilities in safety management and/or practice. There are many Safety Directors, Safety Coordinators, and Safety Specialists in the safety arena who have many years of experience but lack the mathematical expertise to pass a specific safety certification exam. However, by a submission of one's work/career credentials, résumé, professional references, safety seminar certificates, safety education, and several testimonies from peers showing his/ her elite level, safety practitioners and professionals can become a WSO Professional Member upon verification and approval. This membership level gives one a great opportunity to continue to gain knowledge as a member of the WSO, network with and learn from other members, and attend our annual Symposium featuring world-class safety professionals from around the world presenting various types of safety modules.



VISIT US ON THE WEB  
[www.worldsafety.org](http://www.worldsafety.org)



### WSO World Management Center

106 W Young St #F, Warrensburg, MO  
64093 USA

Tel: 1-660-747-3132 | Fax: 1-660-747-2647  
Email: [info@worldsafety.org](mailto:info@worldsafety.org)



Accredited in compliance with  
ISO/IEC 17024:2012

***"Making Safety a Way of Life... Worldwide" since 1975***