REFERENCES

Abbaszadeh, S. & Hassim, M. H. (2014) Comparison of methods assessing environmental friendliness of petrochemical process design. *Journal of Cleaner Production.*71, 110-117. http://dx.doi.org/10.1016/j.jclepro.2013.12.011

Achour, M. H., Haroun, A. E., Schult, C. J., & Gasem, K. A. M. (2005). A new method to assess the environmental risk of a chemical process. *Chemical Engineering and Processing: Process Intensification*, *44*(8), 901–909. https://doi.org/10.1016/j.cep.2004.10.003

Ahmed, S., Gu, X. C. (2020). Accident-based FMECA study of Marine boiler for risk prioritization using fuzzy expert system. *Results in Engineering*, 6, https://doi.org/10.1016/j.rineng.2020.100123.

Al-Sharrah, G.K., Edwards, D., & G. Hankinson. (2007). A New Safety Risk Index for Use in Petrochemical Planning. *Process Safety and Environmental Protection*, 85 (6), 533-540. https://doi.org/10.1205/psep06039.

Amalina, P., Prasetyo, L. B., & Rushayati, S. B. (2016). Forest Fire Vulnerability Mapping in Way Kambas National Park. *Procedia Environmental Sciences*, *33*, 239–252.

Andrews, D. Q., Stoiber, T., Temkin, A.M., & Naidenko, O.V. (2023). Discussion. Has the human population become a sentinel for the adverse effects of PFAS contamination on wildlife health and endangered species?, *Science of The Total Environment*, 901. https://doi.org/10.1016/j.scitotenv.2023.165939.

Anuradha, H. B. B., Gunasekera, M. Y., & Gunapala, O. (2020). Comparison of chemical routes based on inherent safety, health and environmental impacts of accidental and daily operational releases. *Process Safety and Environmental Protection*, *133*, 358–368. https://doi.org/https://doi.org/10.1016/j.psep.2019.11.001

ARIP - Accidental Release Information Program, (1999), Available at http://www.rtk.net/www/data/arip_chem.html

Aretano, R., Semeraro, T., Petrosillo, I., De Marco, A., Pasimen, M. R., & Zurlini, G. (2014). Mapping ecological vulnerability to fi re for effective conservation management of natural protected areas. *Ecological Modelling, 295,* 163-175.

Arunraj, N. S., & Maiti, J. (2009). Development of environmental consequence index (ECI) using fuzzy composite programming. Journal of Hazardous Materials, 162(1), 29–43. https://doi.org/10.1016/j.jhazmat.2008.05.067

Arzaghi, E., Abbassi, R., Garaniya, V., Binns, J., & Khan, F. (2018). An ecological risk assessment model for Arctic oil spills from a subsea pipeline. *Marine Pollution Bulletin*, *135*, 1117–1127. https://doi.org/10.1016/j.marpolbul.2018.08.030

Athar, M., Mohd, A., Buang, A., Nazir, S., Hermansyah, H., & Lian, T. (2019). Process equipment common attributes for inherently safer process design at preliminary design stage. *Process Safety and Environmental Protection*, *128*, 14–29. https://doi.org/10.1016/j.psep.2019.05.033

Azapagic, A., (1999). Life cycle assessment and its application to process selection, design and optimisation. *Chemical Engineering Journal*. 73(1), 1-21. https://doi.org/10.1016/S1385-8947(99)00042-X.

Aziz, A., Ahmed, S., Khan, F., Stack, C., Lind, A. (2019). Operational risk assessment model for marine vessels. Reliability Engineering & System Safety, 185, 348-361. https://doi.org/10.1016/j.ress.2019.01.002.

Banerjee, S., 2002. Industrial Hazards and Plant Safety. CRC Press LLC.

Belke, J.C., (2000), Chemical Accident Risk in U.S. Industry – A Pre- liminary Analysis of Accident Risk Data from U.S. Hazardous Chemical Facilities (United State Environmental Protection Agency Washington, DC, USA).

Beroya-eitner, M. A. (2016). Ecological vulnerability indicators. Ecological Indicators, 60, 329–334.

Botheju, D., & Abeysinghe, K. (2015). Public risk perception towards chemical process industry: Comprehension and response planning. Safety and Reliability: Methodology and Applications. 453-460.

Cabezas, H., Bare, J. C. & Mallick, S. K. (1999) Pollution prevention with chemical process simulators: the generalized waste reduction (WAR) algorithm—full version. *Computers and Chemical Engineering.* 23, 623–634.

Cave, S. R., & Edwards, D. W. (1997). Chemical Process Route Selection Based On Assessment of Inherent Environmental Hazard. *Computers and Chemical Engineering*, *21*, S965-S970. https://doi.org/10.1016/S0098-1354(97)87627-2

CCPS, 1999. Guidelines for Chemical Process Quantitative Risk Analysis, 2nd Edition. Center for Chemical Process Safety (CCPS): AIChE.

CCPS, 2003. Fire Protection in Chemical, Petrochemical, and Hydrocarbon Processing Facilities. Center for Chemical Process Safety: American Institute of Chemical Engineers.

Center for Chemical Process Safety, 2000. Guidelines for Chemical Process Quantitative Risk Analysis, 2nd Edition. Center for Chemical Process Safety/AIChE.

Chen, G., Huang, K., Zou, M., Yang, Y., & Dong, H. (2019). A methodology for quantitative vulnerability assessment of coupled multi-hazard in Chemical Industrial Park. *Journal of Loss Prevention in the Process Industries*, *58,* 30–41.

Chen, H., & Shonnard D. R. (2004). Systematic Framework for Environmentally Conscious Chemical Process Design: Early and Detailed Design Stages. *Industrial & Engineering Chemistry Research*, 43 (2), 535-552. DOI: 10.1021/ie0304356

Chen, Q., Jia, Q., Yuan, Z., & Huang, L. (2013). Environmental risk source management system for the petrochemical industry. *Process Safety and Environmental Protection*, *92*(3), 251–260. https://doi.org/10.1016/j.psep.2013.01.004

Chen, S., Jang, C., & Peng, Y. (2013). Developing a probability-based model of aquifer vulnerability in an agricultural region. Journal of Hydrology, 486, 494–504.

Christen, P., Bohnenblust, H., & Seitz, S., (1994). A Methodology for Assessing

Catastrophic Damage to the Population and Environment: A Quantitative Multi-Attribute Approach for Risk Analysis Based on Fuzzy Set Theory. Process Saf. Prog. 13, 234–238. https://doi.org/10.1002/prs.680130410

CPR 18E, 1999. “Purple book”, Guideline for quantitative risk assessment. The Hague: RVIM.

Crowl, Daniel A; Louvar, J. F. (2014). *Chemical process safety - Fundamentals with applications*. Upper Saddle River, NJ: Prentice Hall.

Cutter, S. L. (1996). Vulnerability to environmental hazards. Progress in Human Geography, 20, 529–539.

Darbra, R. M., Demichela, M., & Mure, S. (2008). Preliminary risk assessment of ecotoxic substances accidental releases in major risk installations through fuzzy logic. *Process Safety and Environmental Protection*, *86*(2), 103–111. https://doi.org/10.1016/j.psep.2007.10.015

Delvosalle, C., Fievez, C., Pipart, A., Debray, B. (2006). ARAMIS project: A comprehensive methodology for the identification of reference accident scenarios in process industries. Journal of Hazardous Materials, 130 (3), 200-219. https://doi.org/10.1016/j.jhazmat.2005.07.005.

Devillers, J., Karcher, W., Isnard, P. (1991). Graphical display of the fugacity model level I, Chemosphere, 23 (5), 633-642. https://doi.org/10.1016/0045-6535(91)90285-L.

Dowell III, A., (1998). Layer of protection analysis for determining safety integrity level, ISA Trans. 37, pp. 155–165

Edwards, D., & Lawrence, D. (1993). Assessing the inherent safety of chemical process route: Is there a relation between plant costs and inherent safety. *Trans IChemE Part B, Proc Safe Env Prot*, *71*(B), 252–258.

Eignbrod, F., Gonzalez, P., Dash, J., & Steyl, I. (2015). Vulnerability of ecosystems to climate change moderated by habitat intactness. *Global Change Biology*, *21*(1), 275–286.

Elliott, A.D., Sowerby, B., Crittenden, B.D. (1996). Quantitative environmental impact analysis for clean design. *Computers & Chemical Engineering*, 20 (2), S1377-S1382, https://doi.org/10.1016/0098-1354(96)00236-0.

Erismana, J. W., & Draaijers, G. (2003). Deposition to forests in Europe: most important factors influencing dry deposition and models used for generalisation. *Environmental Pollution*, *124*(3), 379–388.

Feijoo, S., González-García, S., Moldes-Diz, Y., Vazquez-Vazquez, C., Feijoo, G., Moreira, M.T., (2017). Comparative life cycle assessment of different synthesis routes of magnetic nanoparticles. Journal of Cleaner Production. 143, 528-538. https://doi.org/10.1016/j.jclepro.2016.12.079.

First, K., 2010. Scenario identification and evaluation for layers of protection analysis. Journal of Loss Prevention in Process Industries, 23 (6), 705–718.

Formetta, G., & Feyen, L. (2019). Empirical evidence of declining global vulnerability to climate-related hazards. Global Environmental Change, 57.

Gerlach, T.M., McGee, K.A., Elias, T., Sutton, A. J., Doukas, M.P., (2002). Carbon dioxide emission rate of Kīlauea Volcano: Implications for primary magma and the summit reservoir. J. Geophys. Res. B: Solid Earth. 107, 1-5. https://doi.org/10.1029/2001JB000407

Giger, W. (2009). The Rhine red, the fish dead — the 1986 Schweizerhalle disaster, a retrospect and long-term impact assessment. *Environmental Science and Pollution Research*, *16*, 98–111. https://doi.org/10.1007/s11356-009-0156-y

Griffis-Kyle, K. L., Mougey, K., Vanlandeghem, M., Swain, S., & Drake, J. C. (2018). Comparison of climate vulnerability among desert herpetofauna. *Biological Conservation*, *225*, 164–175.

Gunasekera M. Y. & Edwards, D. W. (2006). Assessing the inherent atmospheric environmental friendliness of chemical process routes: An unsteady state distribution approach for a catastrophic release. *Computers and Chemical Engineering*, *30*(4), 744-757.

Gunasekera, M. Y., & Edwards, D. W. (2003). Estimating the environmental impact of catastrophic chemical releases to the atmosphere: An Index Method for

Ranking Alternative Chemical Process Routes. *Process Safety and Environmental Protection*, *81*(6), 463-474.

Hardy, J. D., Stoll, A. M., Cinningham, D., Benson, W. M., & Greene, L., 1957. Responses of the rat to thermal radiation. Am. J. Physiol. 189, 1–5. https://doi.org/10.1152/ajplegacy.1957.189.1.1

Hassim, H., Edwards, D.W. (2006). Development of a Methodology for Assessing Inherent Occupational Health Hazards. Process Safety and Environmental Protection, 84 (5), 378-390. https://doi.org/10.1205/psep.04412.

Heikkilä, A., Hurme, M., Järveläinen M. (1996). Safety considerations in process synthesis. *Computers & Chemical Engineering*, 20 (1). https://doi.org/10.1016/0098-1354(96)00030-0.

HSE, Failure Rate and Event Data for use within Risk Assessments. 2012.

Jafari, M. J., Mohammadi, H., Reniers, G., Pouyakian, M., Nourai, F., Torabi, S. A., Miandashti, M. R. (2018). Exploring inherent process safety indicators and approaches for their estimation: A systematic review. Journal of Loss Prevention in the Process Industries, 52, 66-80. https://doi.org/10.1016/j.jlp.2018.01.013.

Jia, X., Han, F., & Tan, X. (2004). Integrated environmental performance assessment of chemical processes. *Computers and Chemical Engineering*, *29*, 243–247. https://doi.org/10.1016/j.compchemeng.2004.07.015

Jung, S. H., Ng, D., Lee, J. H., Vazquez-Roman, R., Mannan, M. S. (2010). An approach for risk reduction (methodology) based on optimizing the facility layout and siting in toxic gas release scenarios. *Journal of Loss Prevention in the Process Industries*, 23(1), 139-148. https://doi.org/10.1016/j.jlp.2009.06.012.

Kanan, S. & Samara, F., Dioxins and furans: A review from chemical and environmental perspectives. (2018) *Trends in Environmental Analytical Chemistry*, 17, 1-13. https://doi.org/10.1016/j.teac.2017.12.001

Khan, F. I., Sadiq, R., & Husain, T. (2002). GreenPro-I : a risk-based life cycle assessment and decision-making methodology for process plant design. *Environmental Modelling & Software*, *17*(8), 669–692.

Kidam K., and Hurme, M., (2013). Analysis of equipment failures as contributors to chemical process accidents. Process Safety and Environmental Protection, 91 (1–2), 61–78.

Kidam K., Hurme M. (2012). Origin of equipment design and operation errors. Journal of Loss Prevention in the Process Industries, 25 (6), 937-949, https://doi.org/10.1016/j.jlp.2012.05.005.

Kidam, K., Hurme, M. (2013). Analysis of equipment failures as contributors to chemical process accidents. Process Safety and Environmental Protection, 91(1-2), 61-78. https://doi.org/10.1016/j.psep.2012.02.001.

Kidam, K., Sahak, H.A., Hassim, M.H., Shahlan, S.S., Hurme, M. (2016). Inherently safer design review and their timing during chemical process development and design. Journal of Loss Prevention in the Process Industries, 42, 47-58, https://doi.org/10.1016/j.jlp.2015.09.016.

Kletz, T. A. (1991). Inherently Safer Plants - Recent Progress. *IChemnE Symposium Series No* 124, 225-233.

Kletz, T., Amyotte, P., (2010). Process Plant: A Handbook for Inherently Safer Design, second ed. CRC Press, Taylor & Francis group, FL, USA.

Kley, D., Kleinmann, M., Sanderman, H., & Krupa, S. (1999). Photochemical oxidants: state of the science. *Environmental Pollution*, *100*, 19-42.

Koller, G., Fischer, U., and Hungerbühler K. (2000). Assessing Safety, Health, and Environmental Impact Early during Process Development. *Industrial & Engineering Chemistry Research,* 2000, 39 (4), 960-972. DOI: 10.1021/ie990669i

Kværner, J., Swensen, G., & Erikstad, L. (2006). Assessing environmental vulnerability in EIA — The content and context of the vulnerability concept in an alternative approach to standard EIA procedure. *Environmental Impact Assessment Review*, *26*(5), 511–527.

Lawrence, D. (1996). *Quantifying inherent safety of chemical process routes.* Loughborough University.

Lee, Y. (2014). Social vulnerability indicators as a sustainable planning tool. Environmental Impact Assessment Review, 44, 31–42.

Li, C., Zhang, X., Zhang, S., Suzuki, K. (2009). Environmentally conscious design of chemical processes and products: Multi-optimization method. *Chemical Engineering Research and Design*, 87 (2), 233-243. https://doi.org/10.1016/j.cherd.2008.07.017.

Li, F., Bi, J., Huang, L., Qu, C., Yang, J., & Bu, Q. (2010). Mapping human vulnerability to chemical accidents in the vicinity of chemical industry parks. *Journal of Hazardous Materials*, *179*, 500–506.

Liu, R.Z., Borthwick, A.G.L., Lan, D.D., Zeng, W.H. (2013). Environmental risk mapping of accidental pollution and its zonal prevention in a city. Process Safety and Environmental Protection, 91 (5), 397-404. https://doi.org/10.1016/j.psep.2012.10.003.

Lorenzi, G., Gorgoroni, M., Silva, C., Santarelli, M., (2019). Life Cycle Assessment of biogas upgrading routes. *Energy Procedia*. 158, 2012-2018. https://doi.org/10.1016/j.egypro.2019.01.466.

Luers, A. L., Lobell, D. B., Sklar, L. S., Addams, C. L., & Matson, P. A. (2003). A method for quantifying vulnerability, applied to the agricultural system of the Yaqui Valley, Mexico. Global Environmental Change, 13(4), 255–267.

Mackay D. and Paterson S. (1981). Environmental Science & Technology,15 (9), 1006-1014 DOI: 10.1021/es00091a001

Mackay, D. (2001). *Multimedia Environmental Models* (Second Edi). New York: Lewis Publishers

Manipura, A., Martin, E. B., Montague, G. A., Sharratt, P. N., & Houson, I. (2013). Risk-based decision making in early chemical process development of pharmaceutical and fine chemical industries. *Computers and Chemical Engineering*, *55*, 71–82. https://doi.org/10.1016/j.compchemeng.2013.03.032

Mannan, S., 2012. Lees' Loss Prevention in the Process Industries, Volumes 1-3, 4th edition, vol. 1. Boston: Butterworth-Heinemann.

Mannan, S., 2012. Lees' Loss Prevention in the Process Industries, Volumes 1-3, 4th edition, vol. 1. Boston: Butterworth-Heinemann.

Minimal Risk Levels for Hazardous Substances | ATSDR, Retrieved 14 May 2022, from https://wwwn.cdc.gov/TSP/MRLS/mrlsListing.aspx

Moosemiller, M. (2011). Development of algorithms for predicting ignition probabilities and explosion frequencies. Journal of Loss Prevention in the Process Industries, 24 (3), 259-265. https://doi.org/10.1016/j.jlp.2011.01.012.

Moosemiller, M. (2011). Development of algorithms for predicting ignition probabilities and explosion frequencies. Journal of Loss Prevention in the Process Industries, 24 (3), 259-265. https://doi.org/10.1016/j.jlp.2011.01.012.

Mudan, K. S., (1984). Thermal radiation hazards from hydrocarbon pool fires. Prog. Energy Combust. Sci. 10, 59-80. https://doi.org/10.1016/0360-1285(84)90119-9.

Mukti, A., Prasetyo, L. B., & Rushayati, S. B. (2016). Mapping of fire vulnerability in Alas Purwo National Park. *Procedia Environmental Sciences*, *33*, 290–304.

Nadeeshani, E. & Gunasekera, M.Y., (2021). Environmental performance comparison of parboiled rice production. *Journal of the National Science Foundation of Sri Lanka.* 49(2), 137–155. http://doi.org/10.4038/jnsfsr.v49i2.8849

National Research Council. (1993). Ground Water Vulnerability Assessment: Predicting Relative Contamination Potential Under Conditions of Uncertainty. Washington, DC: The National Academics Press.

Neset, T., Wiréhn, L., Opach, T., Glaas, E., & Linnér, B. (2018). Evaluation of indicators for agricultural vulnerability to climate change : The case of Swedish agriculture. *Ecological Indicators*, *105*, 571–580.

Neshat, M., Pradhan, B., Javadi, S. (2015). Risk assessment of groundwater pollution using Monte Carlo approach in an agricultural region: An example from Kerman Plain, Iran. Computers, *Environment and Urban Systems*, 50, 66-73, https://doi.org/10.1016/j.compenvurbsys.2014.11.004.

Nguyen, A. K., Liou, Y., Li, M., & Tran, T. A. (2016). Zoning eco-environmental vulnerability for environmental management and protection. Ecological Indicators, 69, 100–117.

Ordouei, M. H., Elsholkami, M., Elkamel, A., Croiset, E. (2016) New composite sustainability indices for the assessment of a chemical process in the conceptual design stage: case study on hydrogenation plant. Journal of Cleaner Production, 124, 132-141, https://doi.org/10.1016/j.jclepro.2016.02.107.

OREDA, 2002. Offshore reliability data handbook. OREDA participants.

Ouattara, A., Pibouleau, L., Azzaro-Pantel, C., Domenech, S., Baudet, P., Yao, B., (2012). Economic and environmental strategies for process design. *Computers & Chemical Engineering*, 36, 174-188. https://doi.org/10.1016/j.compchemeng.2011.09.016.

Palaniappan, C., Srinivasan, R., Tan R. (2004). Selection of inherently safer process routes: a case study. *Chemical Engineering and Processing: Process Intensification*, 43 (5), 641-647. https://doi.org/10.1016/j.cep.2002.12.001.

Plambeck, E. L., & Hope, C. (1996). PAGE95 An updated valuation of the impacts of global warming. *Energy Policy*, *24*(9), 783–793.

PubChem, Retrieved 15 September 2022, from https://pubchem.ncbi.nlm.nih.gov

PubChem, Retrieved 25 February 2024, from https://pubchem.ncbi.nlm.nih.gov

Rahman, A. (2008). A GIS based DRASTIC model for assessing groundwater vulnerability in shallow aquifer in Aligarh , India. *Applied Geography*, *28*(1), 32–53.

Rathnayaka, S., Khan, F., & Amyotte, P. (2014). Risk-based process plant design considering inherent safety. *Safety Science*, *70*, 438–464.

Rosa, A. C., Souza, I. T. de, Terra, A., Hammad, A. W. A., Gregório, L. T. D., Vazquez, E., & Haddad, A. (2021). Quantitative risk analysis applied to refrigeration's industry using computational modeling. *Results in Engineering*, 9. https://doi.org/10.1016/j.rineng.2021.100202

Ruijter, A. de., Guldenmund, F. (2016). The bowtie method: A review. Safety Science, 88, 211-218. https://doi.org/10.1016/j.ssci.2016.03.001.

Saaty T.L., 1990. How to make a decision: The analytic hierarchy process. Eur. J. Oper. Res. 48(1), 9-26. https://doi.org/10.1016/0377-2217(90)90057-I.

Saavalainen, P., Turpeinen, E., Omodara, L., Kabra, S., Oravisjärvi, K., Yadav, G.D., Keiski, R.L., Pongrácz, E. (2017). Developing and testing a tool for sustainability assessment in an early process design phase – Case study of formic acid production by conventional and carbon dioxide-based routes. *Journal of Cleaner Production*, 168, pp. 1636-1651. https://doi.org/10.1016/j.jclepro.2016.11.145.

Salvi, O., & Debray, B. (2006). A global view on ARAMIS , a risk assessment methodology for industries in the framework of the SEVESO II directive. *Journal of Hazardous Materials*, *130*(3), 187–199. https://doi.org/10.1016/j.jhazmat.2005.07.034

Sarkheil, H. (2021). Risk and incident analysis on key safety performance indicators and anomalies feedback in south pars gas complex. *Results in Engineering*, 9. https://doi.org/10.1016/j.rineng.2021.100210

Scott, A. (1998). Environment – accident index: validation of a model. *Journal of Hazardous Materials*, *61*, 305–312.

Semeraro, T., Mastroleo, G., Aretano, R., Facchinetti, G., Zurlini, G., & Petrosillo, I. (2016). GIS Fuzzy Expert System for the assessment of ecosystems vulnerability to fi re in managing Mediterranean natural protected areas. *Journal of Environmental Management*, *168*, 94–103.

Serna, J., Díaz Martinez, E. N., Narváez Rincón, P. C., Camargo M., Gálvez D., Orjuela ÿ. (2016). Multi-criteria decision analysis for the selection of sustainable chemical process routes during early design stages. Chemical Engineering Research and Design, 113, 28-49, https://doi.org/10.1016/j.cherd.2016.07.001.

Shahriar, A., Sadiq, R., Tesfamariam, S. (2012). Risk analysis for oil & gas pipelines: A sustainability assessment approach using fuzzy based bow-tie analysis. Journal of Loss Prevention in the Process Industries, 25 (3), 505-523. https://doi.org/10.1016/j.jlp.2011.12.007.

Shariff, A. M, Leong, C. T. (2009). Inherent risk assessment—A new concept to evaluate risk in preliminary design stage. Process Safety and Environmental Protection, 87 (6), 371-376. https://doi.org/10.1016/j.psep.2009.08.004.

Shariff, A. M., Rusli, R., Leong, C. T., Radhakrishnan, V.R., Buang, A. (2006). Inherent safety tool for explosion consequences study. Journal of Loss Prevention in the Process Industries, 19 (5), 409-418. https://doi.org/10.1016/j.jlp.2005.10.008.

Shariff, A. M., Wahab, N. A. (2013). Inherent fire consequence estimation tool (IFCET) for preliminary design of process plant. *Fire Safety Journal*, 59, 47-54. https://doi.org/10.1016/j.firesaf.2013.03.015.

Shariff, A. M., Wahab, N., A., Rusli, R. (2016). Assessing the hazards from a BLEVE and minimizing its impacts using the inherent safety concept. Journal of Loss Prevention in the Process Industries, 41, 303-314. https://doi.org/10.1016/j.jlp.2016.01.001.

Shariff, A. M., Zaini, D. (2013). Inherent risk assessment methodology in preliminary design stage: A case study for toxic release. Journal of Loss Prevention in the Process Industries, 26 (4), 605-613. https://doi.org/10.1016/j.jlp.2012.12.003.

Shen, Y., Lo, C., Nagaraj, D.R., Farinato, R., Essenfeld, A., & Somasundaran, P. (2016). Development of Greenness Index as an Evaluation Tool to Assess Reagents: Evaluation based on SDS (Safety Data Sheet) information. *Minerals Engineering*, *94*, pp. 1-9. https://doi.org/10.1016/j.mineng.2016.04.015.

Sher, E. (1998). Chapter 2 - Environmental Aspects of Air Pollution, Handbook of Air Pollution From Internal Combustion Engines. Academic Press, 27-41, https://doi.org/10.1016/B978-012639855-7/50041-7.

Shutkina, O.V., Ponomareva, O.A., & Ivanova, I.I. (2024). Selective synthesis of cumene from benzene and acetone: Design of tandem catalyst with hydrogenating and alkylating functions. *Microporous and Mesoporous Materials*, 363, 112799.

https://doi.org/10.1016/j.micromeso.2023.112799.

Spera A. (2005) *INEOS Phenol realizes another phenol/acetone capacity expansion at Mobile*. https://www.ineos.com/businesses/ineos-phenol/news/ineos-phenol-realizes-another-phenolacetone-capacity-expansion-at-mobile/

Srinivasan, R., Nhan, N. T. (2008). A statistical approach for evaluating inherent benign-ness of chemical process routes in early design stages. *Process Safety and Environmental Protection*, 86 (3), 163-174. https://doi.org/10.1016/j.psep.2007.10.011.

Suffo, M., Nebot, E. (2016). Proximity as an integral factor in the evaluation of the territorial risk under the European Seveso Directive: Application in Andalusia (South Spain). Process Safety and Environmental Protection, 99, 137-148. https://doi.org/10.1016/j.psep.2015.10.012.

Sugiyama, H., Fischer, U., Hirao, M., Hungerbühler, K. (2006). A chemical process design framework including different stages of environmental, health and safety (EHS) assessment. *Computer Aided Chemical Engineering*, 21, 1021-1026, https://doi.org/10.1016/S1570-7946(06)80180-X.

Survey Department, (2019). Geographical Database, Topographic, Geological and Rainfall maps, Survey Department of Sri Lanka.

Syed, Zaki & Lawryshyn, Yuri. (2020). Multi-criteria decision-making considering risk and uncertainty in physical asset management. Journal of Loss Prevention in the Process Industries. 65. 104064. 10.1016/j.jlp.2020.104064.

Tapia, C., Abajo, B., Feliu, E., Mendizabal, M., Martinez, J. A., Fernández, J. G., Laburu, T., & Lejarazu, A. (2017). Profiling urban vulnerabilities to climate change: An indicator-based vulnerability assessment for European cities. Ecological Indicators, 78, 142–155.

Thienen-Visser, K. V., Hendriks, D., Marsman, A., Nepveu, M., Groenenberg, R., Wildenborg, T., Duijne, H. V., Hartogh, M.D., Pinkse, T. (2014). Bow-tie risk assessment combining causes and effects applied to gas oil storage in an abandoned salt cavern. Engineering Geology, 168, 149-166. https://doi.org/10.1016/j.enggeo.2013.11.002.

Tixier, J., Dandrieux, A., Dusserre, G., Bubbico, R., Mazzarotta, B., Silvetti, B., Hubert, B., Rodrigues, N., & Salvi, O. (2006). Environmental vulnerability assessment in the vicinity of an industrial site in the frame of ARAMIS European project. *Journal of Hazardous Materials*, *130*(3), 251–264.

TNO (Institute for Environmental and Energy Technology TNO Prins Maurits Laboratory TNO). (1992). Methods for the determination of possible damage to people and objects resulting from releases of Hazardous Materials. Voorburg: Committee for the Prevention of Disasters, Den Haag.

Topuz, E., Talinli, I., & Aydin, E. (2011). Integration of environmental and human health risk assessment for industries using hazardous materials : A quantitative multi criteria approach for environmental decision makers. *Environment International*, *37*(2), 393–403. https://doi.org/10.1016/j.envint.2010.10.013

Toro, J., Requena, I., Duarte, O., Zamorano, M. (2013). A qualitative method proposal to improve environmental impact assessment. *Environmental Impact Assessment Review*, 43, 9-20. https://doi.org/10.1016/j.eiar.2013.04.004.

Torres C. M., Gadalla M. A., Mateo-Sanz J. M., & Esteller L. J. (2011). Evaluation Tool for the Environmental Design of Chemical Processes. *Industrial & Engineering Chemistry Research*, 50(23), 13466-13474.

Tsai, Y. I., Kuo, S. C, Young, L. H., Hsieh, L. Y., Chen, P. T. (2014). Atmospheric dry plus wet deposition and wet-only deposition of dicarboxylic acids and inorganic compounds in a coastal suburban environment. Atmospheric Environment, 89, 696-706, https://doi.org/10.1016/j.atmosenv.2014.03.013.

Tsakiris, G. (2014). Flood risk assessment : concepts, modelling, applications. *Natural Hazards on Earth System Sciences*, 1361–1369.

Turner, B. L., et al. (2003). A framework for vulnerability analysis in sustainability science. Proceedings of the National Academy of Sciences, 100(14), 8074–8079.

United Nations Economic and Social Council. (2012). Economic Commission for Europe: Executive Body for the Convention on Long-range Transboundary Air Pollution. Thirtieth session, Geneva. Retrieved from https://unece.org/fileadmin/DAM/env/documents/2012/EB/ECE_EB_AIR_2012_3_E.pdf

U.S. Environmental Protection Agency (EPA). (2007). ALOHA – User's Manual. U.S. Environmental Protection Agency.

U.S. Environmental Protection Agency (EPA). (2020a). Understanding Global Warming Potentials. Retrieved from https://www.epa.gov/ghgemissions/understanding-global-warming-potentials

U.S. Environmental Protection Agency. (2020b). Understanding Global Warming Potentials. Retrieved from https://www.epa.gov/ghgemissions/understanding-global-warming-potentials

Ullmann (1996). *Ullmann's Encyclopaedia of Industrial Chemistry*. Vol B7, VCH, Weinheim, Germany.

Ullmann (1985). *Ullmann's Encyclopedia of Industrial Chemistry*. Vol. A1., 5th ed. VCH, Weinheim, Germany.

van Vliet, M. T. H., Wiberg, D., Leduc, S., & Riahi, K. (2016). Power-generation system vulnerability and adaptation to changes in climate and water resources. *Nature Climate Change*, *6*, 375–380.

Verschueren, K. (1996). *Handbook of Environmental Data on Organic Chemicals*. Van Nostrand Reinhold, New York, USA.

Vílchez, J. A., Espejo, V., Casal, J. (2011). Generic event trees and probabilities for the release of different types of hazardous materials. Journal of Loss Prevention in the Process Industries, 24 (3), 281-287. https://doi.org/10.1016/j.jlp.2011.01.005.

Vorosmarty, C. J., Grees, P., Salisbury, J., & Lammers, R. B. (2000). Global Water Resources : Vulnerability from Climate Change and Population Growth. *Science*, *289*, 284–289.

Warnasooriya, S., & Gunasekera, M. Y. (2016). Assessing inherent environmental , health and safety hazards in chemical process route selection. *Process Safety and Environmental Protection*, *105*, 224–236.

Yandrapu, V. P, Kanidarapu, N. R. (2022). Energy, economic, environment assessment and process safety of methylchloride plant using Aspen HYSYS simulation model. *Digital Chemical Engineering*, 3. https://doi.org/10.1016/j.dche.2022.100019

Zhao, J., Ji, G., Tian, Y., Chen, Y., & Wang, Z. (2018). Environmental vulnerability assessment for mainland China based on entropy method. *Ecological Indicators*, *91*, 410–422.

Zou, T., & Yoshino, K. (2017). Environmental vulnerability evaluation using a spatial principal components approach in the Daxing ' anling region , China. *Ecological Indicators*, 78, 405-415.