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The SIN Producers List for Investors

Covering MSCI World Developed Market Index and STOXX® All Europe 800 Chemicals Index

Update April 2014

CONTENT

Sonja Haider
Business and Investors Advisor, ChemSec

Avoiding risks and identifying opportunities to invest in growth potential in future markets are the core business of investment professionals. It is important that the chemicals used in manufacturing are subject to such evaluations as well." The chemical industry is one of the biggest industry sectors and continuously growing. Global sales posted a four-fold increase from €826 billion in 1992 to €3,127 billion in 2012," says the European Chemical Association CEFIC in its Facts & Figures report 2013.

The chemical industry converts raw materials such as oil, coal, gas, air, water and minerals into a wide range of finished and semi-finished products for other chemical companies, industries and consumers. Chemicals are used in 80 to 90 per cent of all industrial processes and manufactured goods.

In order to tackle severe environmental pollution and serious health effects such as cancer, infertility and allergies, legislators worldwide are discussing and implementing stronger chemicals legislation. Europe has created the most far-reaching legislation worldwide, known as REACH, the Registration, Evaluation and Authorisation of Chemicals. »

Since then we have seen clear market shifts away from hazardous chemicals as soon as they are recognised as substances of very high concern, by listing them on the REACH Candidate List. Legislation drives innovation as chemical producers want to keep their market position and are forced to innovate by substituting with safer alternatives. The SIN List serves as a forerunner of the final Candidate List and helps companies to identify and substitute chemicals that are in question.

Chemical companies were initially quite reluctant to consider phasing out profit-making chemicals, but nowadays we see first attempts at strategic evaluations and reduction plans. The business case and the market potential for safer and healthier products are drivers for innovation. Investors should monitor these developments closely and invest their money in these changes to be able to participate from future profits.

This publication and more detailed information in our database should help investors to understand who is still producing or importing hazardous chemicals in Europe. We regard the information on the numbers of SIN substances as a first milestone. Now more questions about the relevance of these chemicals can be asked of chemical companies: What proportion of production involves the use of hazardous chemicals? How much do they contribute to profits? Are alternatives available or in development?

We hope that investors use this increased knowledge to raise the right questions, motivate companies to move out of hazardous chemicals into the growth potential market of safer alternatives – and thereby reduce environmental pollution and improve health.

How investors use the SIN list

As Responsible Investors we find ChemSec's Sin List to be very helpful in identifying areas of exposure for the companies we invest in. This exposure and our expectations for management and mitigation of the topic, often become part of the agenda when we meet with our investee companies. We commend ChemSec for producing such an easy to navigate and pertinent initiative.

Abigail Herron
Head of Responsible Investment Engagement, Aviva Investors

"Over a 5-10 year period, issues of chemical toxicity and risk are central to the on-going legitimacy and vitality of the chemical industry in the EU and beyond. The SIN list is an essential 'route-map' in helping us understand these issues and providing a basis for investor engagement with chemical companies."

Seb Beloe, Partner, Head of Sustainability Research
WHEB Asset Management

Second wave of global chemical legislation

"The largest chemical producing countries in the world are in the process of developing a second wave of chemical legislation after the one started in the 1970s. This second generation of legislation, of which REACH is part, places much more stringent rules on allowing chemical substances to be placed in the market." [1]

This is the conclusion of a report done for the European Commission on the impact of the REACH regulation on the innovativeness of the EU chemical industry. Environmental legislation with restrictions and bans can have severe impacts on chemical companies revenues, but is often the starting point for innovation cycles. Especially social responsible investors should follow and support the strive for better chemical legislation worldwide. The following articles should give you an overview of current most important developments.

1. *EU Commission: Interim Evaluation: Impact of the REACH regulation on the innovativeness of the EU chemical industry, Annexes, 14 June 2012*

Reflections on REACH and current developments

The European chemicals regulation, REACH, is unique in terms of fostering innovation and providing downstream users and the financial community with knowledge and a say on chemical matters. Even the European chemical industry association CEFIC states that they believe that "REACH can benefit society and serve to strengthen Europe's position on the global stage. REACH can not only improve chemicals management but has also strengthened product knowledge and enhanced communications throughout the value chain. REACH can increasingly be seen as a reference in other regions and allows the European chemical industry to differentiate itself based on the fact that its processes and product portfolio meet stringent requirements. Our member companies can use this as a selling point [...]"[2].

Eye-opener for downstream users

REACH offers industries that use chemicals the possibility to empower themselves by better understanding the risks and opportunities of products from the chemical industry. The introduction of the Candidate List and its "Substances of Very High Concern" (SVHC) suddenly brought home to many downstream users that having SVHCs in their products could in fact threaten their brands. Therefore we see a decreasing market for SVHCs in Europe nowadays.

The Candidate List and the SIN List drive innovation

The Candidate List is one of the innovative elements in REACH, it continues to grow and now contains 151 Substances of Very High Concern. The European Commission has stated that "all relevant" Substances of Very High Concern will be included on the Candidate List by 2020.

ChemSec has had considerable success with the SIN List, which serves as an unofficial Candidate List. It has speeded up the pace of which substances are added to the Candidate List, when the European Commission was initially split on how to proceed (DG Enterprise and Environment). Without the SIN List the progress of the Candidate List would have been much slower.

In fact today the Candidate List is much more important than originally thought. This list, and by implication the SIN List, is now driving innovation among downstream users concerned about the brand implications of authorization and more generally of being associated with the SVHC concept, which also includes an obligation to inform consumers.

The next implementation phase

The next important step of REACH implementation is the authorization part where Candidate List chemicals will be evaluated and banned after a set "sunset date", and then allowed when authorized for a specific use. This is where the principle of "no data – no market" is tested, where the reversed burden of proof will be implemented and where the principle of "safe use" will have to be demonstrated. These whole series of issues around the authorization part of REACH need to be clarified, and 2015 is likely to be the key decision year when the practice of authorization policy will be set.

2. *CEFIC: The chemical industry in Europe: Towards Sustainability 2011/2012 Report*

Players other than the chemical industry are important

Downstream industries witness that upstream suppliers are reluctant to share information about their chemicals, using the arguments of intellectual properties. Upstream suppliers strive to preserve their monopoly on innovation, whereby the joint knowledge of the value chain is needed to develop strategies for safer alternatives or processes. Nevertheless we see professional attempts to close the knowledge gaps with systems like BomCheck, Chemtrac, SciVera Lens, Actio Material Disclosure Tool and others.

Sustainable asset management within the financial markets could become a very positive force for REACH in the next couple of years. Investors' requests for more specific answers on SVHCs forces chemical companies to react – to phrase answers and develop strategic concepts. Joint engagement initiatives could be broadened and made public to serve information needs. The Dow Jones Sustainability Index is likely to be a good arena, but would require methods to assess companies' chemical management systems and their use of SVHCs. Investors support for environmental legislation and especially for the review of REACH would be positive.

Joint efforts for the success of REACH

The year 2015 is likely to be decisive for the future of REACH, which presently is a global forerunner in chemicals safety and the protection of human health. When REACH prevails, other regulatory regions in Asia are likely to look at and follow the EU as conditions evolve on the EU market.The potential gains and the opportunities for industrial innovation along the supply chains need to be emphasized and implementation tightened up. Broad support will outweigh the arguments about risks to the chemicals supply industry. Let's make REACH to our success story.

Anne-Sofie Andersson
Director, Chemsec

China and Taiwan implement stricter control of hazardous chemicals

Over the last few years, several new regulatory initiatives for controlling chemical use and production have been launched in China and Taiwan. While there are still some uncertainties about future developments and implementation, it is obvious that these countries now seek to tackle the problems of hazardous chemicals.

For decades, companies in China have been required to report the production and use of specific chemicals, mentioned in the "Hazardous Chemicals Catalogue". This catalogue however mainly covered chemicals of interest for physical and/or chemical production safety, such as flammables, explosives and corrosives. The chemical registration scheme saw a groundbreaking development in March 2013, when the "Measures for Registration of Hazardous Chemicals for Environmental Management" took effect and set a new priority chemical list that extends beyond production safety. Companies are now required to report all chemicals in this priority list, which includes chemicals that do not easily degrade, that build up in the environment, are toxic, cause cancer or reproductive disorders, as well as a few chemicals that are endocrine disruptors.

This closes a long-existing loophole in China where a large number of old chemicals were "grandfathered" with no record or assessment of their hazards or production level. Now, companies that use, produce or import substances on the priority list need to submit an environmental risk assessment report and will then receive a verdict on the "environmental risk regulatory level". The "Measures" also set up a rudimentary "pollutants release and transfer" register system, stating that enterprises that use or produce chemicals in the priority list must complete a release and transfer report and publish the data before 31 January each year.

It is not clear how and when the priority list will be updated or whether restrictions will follow for these chemicals. Nevertheless, the framework of having a priority list and a reporting system indicates that there will be more stringent control over chemicals with environmental hazards in China and that chemical companies should expect more obligations to come.

At the end of 2013, Taiwan adopted the revised "Toxic Chemical Substances Control Act", which will take effect from December 2014. The revisions consider both existing and new chemical substances, and require registration of existing chemical substances in separate phases. First, companies need to register data for the substances that are most widely used or sold, or which are seen as posing the most severe risks. With regard to new chemical substances, the Environmental Protection Administration will require the registration of physical properties, safety evaluations and other relevant data before a new chemical can be used.

Yixiu Wu
Head of Toxcis campaign
Greenpeace East Asia

US Chemicals Policy Reform

The main piece of federal chemicals regulation in the US is the Toxic Substances Control Act (TSCA) from 1976. Chemical industry and environmental NGOs in the U.S. agree that TSCA is outdated and in need of updating. Several attempts to update the law in the past have not succeeded since there has been little agreement on how to reform TSCA. Right now two new bills are under discussion in both bodies of the US Congress.

The House of Representatives is discussing "The Chemicals in Commerce Act (CICA)", which aims, according to its supporters[3], to "improve public confidence in the safety of chemicals produced and used in the United States and to encourage innovation and job creation." However others argue that CICA would make TSCA an even weaker law. In the Senate, conversations continue to move forward on a different bill to reform TSCA, the Chemical Safety Improvement Act (CSIA). In an effort at bipartisan reform, both the Republican and the Democratic parties are working on legislation that provides enough reform for chemical manufacturers and environmental groups to move forward.

Positive developments are seen on US state level. States often move faster and more aggressively to regulate toxic chemicals than what is done at the national level. For example, in 2014 over 20 states[4] are considering laws to restrict various toxic chemicals in children's and building products. Over the past 10 years state governments have passed hundreds of laws[5] that regulate toxic chemicals in products and manufacturing.

Most promising and standard setting could be California's chemicals legislation the Green Chemistry Initiative. This is a bold new environmental law to identify and restrict toxic chemicals in consumer products sold in the state which is the largest consumer market in the US. The law requires a new life-cycle "alternatives analysis" to evaluate alternatives and substitutes for hazardous substances in consumer products based not only upon their risks during product use, but also during their manufacture and after disposal. The state may then condition, restrict or ban the use of those chemicals in the products of concern.

If a manufacturer uses identified hazardous chemicals in certain specified products, he would need to conduct an assessment. The methodology compares the alternatives to the regulated product and to one another across a variety of attributes, typically including public health impacts, environmental effects, technical performance and economic impacts on the manufacturer and the consumer.

The reform attempts for the federal legislation do not look very promising currently, but the Californian approach with its product scope and the comprehensive alternative assessment is the most holistic regulation globally and may become a global standard, when its implementation proves to be successful.

3. *http://energycommerce.house.gov/press-release/shimkus-unveils-discussion-draft-chemicals-commerce-act*
4. *http://www.saferstates.com/states_in_the_lead/current_legislation.html*
5. *http://www.newmoa.org/prevention/ic2/projects/chempolicy/*

PART 1:
COMPANIES GLOBALLY (MSCI WORLD INDEX)

PART 1: COMPANIES GLOBALLY (MSCI WORLD INDEX)

Number of SIN List and Candidate List substances produced including changes since the last update of the SIN Producers list in April 2013. (Information about which SIN List substances can be found in the SIN List database at www.sinlist.org, by searching for company name.)

SECTOR*: MATERIALS INDUSTRY: CHEMICALS

Region: Europe

Company name	ISIN	Number of SIN List substances** (Changes to 2013)	Number of Candidate List substances***[1]
AIR LIQUIDE	FR0000120073	1	0
Akzo Nobel	NL0000009132	(↑1) 10	3
ARKEMA	FR0010313833	(↑2) 11	(↑1) 7
BASF	DE000BASF111	(↑1) 46	18
Croda International	GB0002335270	2	1
DSM	NL0000009827	5	1
Givaudan	CH0010645932	1	0
ICL	IL0002810146	(↑1) 9	(↑1) 4
Johnson Matthey	GB00B70FPS60	(↓1) 7	(↓1) 3
Lanxess	DE0005470405	(↑2) 19	4
Linde	DE0006483001	1	0
Solvay Group	BE0003470755	15	7
Syngenta	CH0011037469	3	2
Umicore	BE0003884047	(↑1) 18	7
Yara	NO0010208051	2	0

Region: America

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
AGRIUM	CA0089161081	1	0
Air Products & Chemicals	US0091581068	(↑1) 7	2
Albemarle Corporation	US0126531013	11	6
Ashland	US0442091049	10	3
Celanese	US1508701034	1	0
Dow Chemical Company	US2605431038	(↑2) 34	6
Du Pont	US2635341090	(↑1) 11	4
Eastman Chemical	US2774321002	(↑1) 8	0
Ecolab	US2788651006	3	2

* *Global Industry Classification Standard, GICS, used*

** *SIN List substances according to the 2.1 update in February 2013, in total 626 substances and substance groups*

*** *Candidate List substances according to the ECHA update in December 2013, in total 151 substances*

Continued from page 8, Region: America

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
International Flavors & Fragrances	US4595061015	2	1
LyondellBasell	NL0009434992	28	3
PPG Industries	US6935061076	(↑1) 4	2
Praxair	US74005P1049	1	0
Sigma-Aldrich	US8265521018	19	14

Region: Asia

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Daicel Corporation	JP3485800001	1	0
Hitachi Chemical	JP3785000005	6	3
Kuraray	JP3269600007	5	1
Mitsubishi Gas Chemical	JP3896800004	(↑2) 3	(↑1) 1
Shin-Etsu Group	JP3371200001	(↑1) 3	1
Showa Denko	JP3368000000	4	0
Sumitomo Chemical	JP3401400001	1	0
Toray Group	JP3621000003	(↑1) 9	1

SECTOR: MATERIALS **INDUSTRY:** METALS & MINING

Region: Europe

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
ArcelorMittal	LU0323134006	1	1
Boliden	SE0000869646	4	(↑1) 2
Glencore Xstrata	JE00B4T3BW64	36	3
Rio Tinto Group	GB0007188757	4	4

Region: America

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Alcoa	US0138171014	2	1
Freeport McMoRan Copper & Gold	US35671D8570	(↑1) 2	1

SECTOR: ENERGY INDUSTRY: OIL, GAS & CONSUMABLE FUELS

Region: Europe

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
BP	GB0007980591	(↑1) 63	0
Eni	IT0003132476	(↑1) 66	1
Galp Energia Group	PTGAL0AM0009	(↑1) 37	0
Neste Oil	FI0009013296	30	0
OMV	AT0000743059	(↓1) 51	0
Repsol	ES0173516115	(↑1) 61	2
Royal Dutch Shell	GB00B03MM408	99	4
Statoil	NO0010096985	34	0
TOTAL	FR0000120271	(↓1) 73	1

Region: America

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Cabot	US1270971039	2	1
Cameco Corporation	CA13321·1085	1	1
Chevron Corporation	US1667641005	32	3
ConocoPhillips	US20825C1045	1	0
ExxonMobil	US30231G1022	(↑3) 86	3
Hess Corporation	US42809H1077	3	0
Occidental Petroleum	US6745991058	2	0
Phillips 66	US7185461040	(↑1) 45	2
Valero Energy	US91913Y1001	20	0

Region: Asia

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Idemitsu Kosan Co.	JP3142500002	1	0

SECTOR: ENERGY INDUSTRY: ENERGY EQUIPMENT & SERVICES

Region: Europe

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Weatherford	CH0038838394	3	2

Region: America

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Baker Hughes	US0572241075	3	2
Halliburton	US4062161017	3	1

SECTOR: UTILITIES **INDUSTRY:** ELECTRIC UTILITIES / MULTI-UTILIITES

Region: Europe

Company name	ISIN	Number of SIN List substances	Number of Candidate List substances
Enel	IT0003128367	1	0
Fortum	FI0009007132	1	0
RWE	DE0007037129	3	0

SECTOR: INFORMATION TECHNOLOGY

Region: America

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Hewlett-Packard	Computers & Peripherals	US4282361033	1	0
Xerox	Office Electronics	US9841211033	2	(↑1) 1

Region: Asia

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
FUJIFILM Corporation	Electronic Equipment, Instruments & Components	JP3814000000	(↓1) 1	1
Kyocera	Electronic Equipment, Instruments & Components	JP3249600002	1	0
Murata Manufacturing	Electronic Equipment, Instruments & Components	JP3914400001	1	1
TDK Corporation	Electronic Equipment, Instruments & Components	JP3538800008	1	0

SECTOR: INDUSTRIALS

Region: Europe

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Brenntag	Trading Companies & Distributors	DE000A1DAHH0	2	2
Safran	Aerospace & Defense	FR0000073272	2	0
Saint-Gobain	Building Products	FR0000125007	2	1
Sandvik Group	Machinery	SE0000667891	1	0
Smiths Group	Industrial Conglomerates	GB00B1WY2338	1	0

Region: America

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
3M	Industrial Conglomerates	US88579Y1010	(↑2) 12	3
Avery Dennison Corporation	Commercial Services & Supplies	US0536111091	(↑1) 3	0
Cummins	Machinery	US2310211063	1	1
General Electric	Industrial Conglomerates	US3696041033	(↑1) 4	0
Honeywell International	Aerospace & Defense	US4385161066	(↑1) 11	(↑2) 8
Illinois Tool Works	Machinery	US4523081093	(↑2) 5	1

Region: Asia

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
ITOCHU	Trading Companies & Distributors	JP3143600009	1	1
Marubeni Corporation	Trading Companies & Distributors	JP3877600001	(↑2) 3	0
Mitsubishi Corporation	Trading Companies & Distributors	JP3898400001	(↑2) 3	(↑1) 1
Mitsui & Co	Trading Companies & Distributors	JP3893600001	(↑1) 6	0
Noble Group	Trading Companies & Distributors	BMG6542T1190	8	0
Sojitz Group	Trading Companies & Distributors	JP3663900003	1	1
Sumitomo Corporation	Trading Companies & Distributors	JP3404600003	3	0
Toyota Tsusho	Trading Companies & Distributors	JP3635000007	3	1

SECTOR: CONSUMER

Region: Europe

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Carrefour	Food & Staples Retailing	FR0000120172	1	0
Henkel	Household Products	DE0006048408	(↑1) 13	(↑1) 5
Michelin	Auto Components	FR0000121261	5	1
Tate & Lyle	Food Products	GB0008754136	1	0
Unilever	Food Products	NL0000388619 / GB00B10RZP78	2	1

Region: America

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Johnson Controls	Auto Components	US4783661071	1	1
Kimberly-Clark	Household Products	US4943681035	1	0
Newell Rubbermaid	Household Durables	US6512291062	1	0

Region: Asia

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Kao Group	Personal Products	JP3205800000	(↑1) 3	0
Panasonic	Household Durables	JP3866800000	1	0

SECTOR: HEALTH CARE

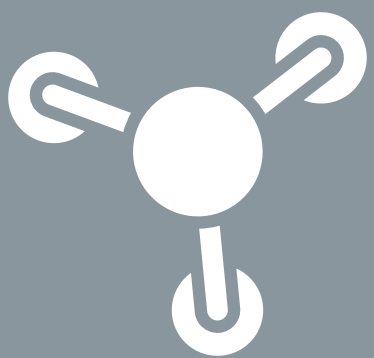
Region: Europe

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Bayer AG	Pharmaceuticals	DE000BAY0017	11	4
Lonza Group	Life Sciences Tools & Services	CH0013841017	2	1
Merck KGaA	Pharmaceuticals	DE0006599905	(↑2) 7	(↑1) 5
Novartis	Pharmaceuticals	CH0012005267	(↑1) 2	(↑1) 2

Region: America

Company name	Industry	ISIN	Number of SIN List substances	Number of Candidate List substances
Baxter International	Health Care Equipment & Supplies	US0718131099	1	1
Becton Dickinson	Health Care Equipment & Supplies	US0758871091	1	0

PART 2:
EUROPEAN CHEMICAL COMPANIES (STOXX® ALL EUROPE 800 CHEMICALS INDEX)



PART 2: EUROPEAN CHEMICAL COMPANIES (STOXX® ALL EUROPE 800 CHEMICALS INDEX)

Number of SIN List and Candidate List substances produced including changes since the last update of the SIN Producers list in April 2013.

Company name	Revenue in m EUR (2013)	Number of SIN List substances* (Changes to 2013)	Number of SIN List substances on the Candidate List* (Changes to 2013)
BASF	73,973 m EUR	(↑ 1) 46	18
Lanxess	8,300 m EUR	(↑ 2) 19	4
Umicore	9,819 m EUR	(↑ 1) 18	7
Evonik	12,874 m EUR	18	4
Solvay	9,938 m EUR	15	7
Clariant	4,918 m EUR	(↓ 1) 13	(↓ 1) 8
Arkema	6,098 m EUR	(↑ 2) 11	(↑ 1) 7
Bayer	40,157 m EUR	11	4
Akzo Nobel	14,590 m EUR	(↑ 1) 10	3
Johnson Matthey	12,869 m EUR	(↓ 1) 7	(↓ 1) 3
Kemira	2,229 m EUR	5	2
Wacker Chemie	4,480 m EUR	(↑ 1) 5	2
DSM	9,618 m EUR	5	1
Syngenta	10,650 m EUR	3	2
Elementis	563 m EUR	3	1
Brenntag	9,770 m EUR	2	2
Croda International	1,292 m EUR	2	1
Symrise	1,830 m EUR	(↑ 1) 2	0
Yara	10,176 m EUR	2	0
Air Liquide	15,225 m EUR	1	0
Givaudan	3,584 m EUR	1	0
Linde	16,655 m EUR	1	0
EMS Chemie	1,430 m EUR	0	0
Fuchs Petrolub	1,832 m EUR	0	0
Hexpol	907 m EUR	0	0
K + S	3,950 m EUR	0	0
Uralkali	2,410 m EUR	0	0
Victrex	266 m EUR	0	0

* *SIN List substances according to the 2.1 update in February 2013, in total 626 substances and substance groups*

** *Candidate List substances according to the ECHA update in December 2013, in total 151 substances, up 13 from December 2012*

Air Liquide

www.airliquide.com

France

Subsector:	Commodities Chemicals	Revenue:	15,225 m EUR
ISIN:	FR0000120073	Employees:	50,250
Reuters:	AIRP.PA		
Bloomberg:	AI FP		

Air Liquide SA, through its subsidiaries, produces, markets, and sells industrial and healthcare gases worldwide. These gases include liquid nitrogen, argon, carbon dioxide, and oxygen. The company also produces welding equipment, diving equipment, and technical-medical equipment. Air Liquide sells its products throughout Europe, the United States, Canada, Africa, and Asia. *(source: Bloomberg)*

Air Liquide produces/imports the following 1 SIN List substance and 0 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Carbon monoxide	630-08-0		Toxic for reproduction

Akzo Nobel

www.akzonobel.com

Netherlands

Subsector:	Specialty Chemicals	Revenue:	14,590 m EUR
ISIN:	NL000009132	Employees:	49,600
Reuters:	AKZO.AS		
Bloomberg:	AKZA NA		

Akzo Nobel N.V. produces and markets chemicals, coatings, and paints. The company's products include surfactants, polymer chemicals, pulp and paper chemicals, as well as lacquers and varnishes. *(source: Bloomberg)*

Akzo Nobel produces/imports the following 9 SIN List substances and 3 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1-chloro-2,3-epoxypropane	106-89-8		Carcinogenic
2,3-epoxypropyltrimethylammonium chloride	3033-77-0		Carcinogenic
Acrylamide	79-06-1	✔	Carcinogenic; Mutagenic
Dicyclohexyl phthalate (DCHP) NEW	84-61-7		Toxic for reproduction
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Formaldehyde	50-00-0		Equivalent concern
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
Nonylphenol, branched, ethoxylated	68412-54-4		Equivalent concern/EDC
Sodium dichromate	10588-01-9	✔	Carcinogenic; Toxic for reproduction; Mutagenic

ARKEMA

www.arkema.com

France

Subsector:	Commodities Chemicals	Revenue:	6,098 m EUR
ISIN:	FR0010313833	Employees:	13,908
Reuters:	AKE.PA		
Bloomberg:	AKE FP		

Arkema manufactures and markets a wide range of chemicals. The Company manufactures both industrial chemicals and performance products including acrylics, polymethyl methacrylate (PMMA), hydrogen peroxide, technical polymers, specialty chemicals, and functional additives. *(source: Bloomberg)*

Arkema produces/imports the following 11 SIN List substances and 7 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1,2-dichloroethane	107-06-2	✔	Carcinogenic
Bis(2-ethylhexyl) phthalate; DEHP	117-81-7	✔	Toxic for reproduction
Chloroethylene	75-01-4		Carcinogenic
Dibutyltin dichloride	683-18-1	✔	Toxic for reproduction
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Ethylene thiourea	96-45-7		Toxic for reproduction
Hydrazine	302-01-2	✔	Carcinogenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
Sodium dichromate NEW	10588-01-9	✔	Carcinogenic; Toxic for reproduction; Mutagenic; Specific Target Organ Toxicant; respiratory sensitizer
Styrene NEW	100-42-5		Equivalent concern/EDC
Trichloroethylene	79-01-6	✔	Carcinogenic

BASF

www.basf.com

Germany

Subsector:	Commodities Chemicals	Revenue:	73,973 m EUR
ISIN:	DE000BASF111	Employees:	112,206
Reuters:	BASFn.DE		
Bloomberg:	BAS GR		

BASF SE operates in six segments: Chemicals, Plastics, Performance Products, Functional Solutions, Agricultural Solutions and Oil & Gas. BASF offers products for the chemical, automotive, construction, agriculture, oil, plastics, electrical/electronics, furniture and paper industries, and provides a range of system solutions and services. *(source: Bloomberg)*

BASF produces/imports the following 46 SIN List substances and 18 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
[carbonato(2-)] tetrahydroxytrinickel	12607-70-4		Carcinogenic; Toxic for reproduction
1-chloro-2,3-epoxypropane	106-89-8		Carcinogenic
1,2-dichloroethane	107-06-2	✔	Carcinogenic
1,2-dimethoxyethane	110-71-4	✔	Toxic for reproduction
1,3-propanesultone NEW	1120-71-4		Carcinogenic
2-ethylhexyl 4-methoxycinnamate	5466-77-3		Equivalent concern/EDC
2-nitrotoluene	88-72-2		Carcinogenic; Mutagenic
4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	✔	Equivalent concern/EDC
4,4'-methylenedianiline, MDA	101-77-9	✔	Carcinogenic
Acrylamide	79-06-1	✔	Carcinogenic; Mutagenic
Acrylonitrile	107-13-1		Carcinogenic
Aniline	62-53-3		Equivalent concern
Aziridine	151-56-4		Carcinogenic; Mutagenic
Benzene	71-43-2		Carcinogenic; Mutagenic
Bis(2-methoxyethyl) ether	111-96-6	✔	Toxic for reproduction
Buta-1,3-diene	106-99-0		Carcinogenic; Mutagenic
Carbon monoxide	630-08-0		Toxic for reproduction
Chromium trioxide	1333-82-0	✔	Carcinogenic; Mutagenic
Diisononyl phthalate	28553-12-0		Equivalent concern/EDC
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Formaldehyde	50-00-0		Equivalent concern
Formamide	75-12-7	✔	Toxic for reproduction

BASF, continued from page 23.

Substance	CAS number	Present on Candidate List	Hazard classification
Hexabromocyclododecane	25637–99–4	✔	PBT/vPvB
Hydrocarbons, C4	87741–01–3		Carcinogenic; Mutagenic
Hydrocarbons, C4, steam-cracker distillate	92045–23–3		Carcinogenic; Mutagenic
Hydrocarbons, C5-rich	68476–55–1		Carcinogenic; Mutagenic
Lead chromate molybdate sulphate red	12656–85–8	✔	Carcinogenic; Toxic for reproduction
Lead monoxide	1317–36–8	✔	Toxic for reproduction
Lead sulfochromate yellow	1344–37–2	✔	Carcinogenic; Toxic for reproduction
Methyloxirane	75–56–9	✔	Carcinogenic; Mutagenic
N-methyl-2-pyrrolidone	872–50–4	✔	Toxic for reproduction
N-methylacetamide	79–16–3	✔	Toxic for reproduction
N,N-dimethylacetamide	127–19–5	✔	Toxic for reproduction
N,N-dimethylformamide	68–12–2	✔	Toxic for reproduction
Naphtha (petroleum), hydrotreated light	64742–49–0		Carcinogenic; Mutagenic
Naphtha (petroleum), light steam-cracked	64742–83–2		Carcinogenic; Mutagenic
Naphtha (petroleum), light steam-cracked arom.	68527–23–1		Carcinogenic; Mutagenic
Naphtha (petroleum), light straight-run	64741–46–4		Carcinogenic; Mutagenic
Naphtha (petroleum), solvent-refined light	64741–84–0		Carcinogenic; Mutagenic
Nickel dinitrate	13138–45–9		Carcinogenic; Toxic for reproduction
Nickel monoxide	1313–99–1		Carcinogenic
O-toluidine	95–53–4	✔	Carcinogenic
Solvent naphtha (petroleum), light arom NEW	64742–95–6		Carcinogenic; Mutagenic
Styrene	100–42–5		Equivalent concern/EDC
Triclosan	3380–34–5		Equivalent concern/EDC
Trinickel disulphide	12035–72–2		Carcinogenic

Registration removed since last report:

Nickel dihydroxide	12054–48–7		Carcinogenic; Toxic for reproduction

Bayer

www.bayer.com

Germany

Subsector:	Specialty Chemicals	Revenue:	40,157 m EUR
ISIN:	DE000BAY00	Employees:	113.200
Reuters:	BAYGn.DE		
Bloomberg:	BAYN GR		

Bayer AG produces and markets healthcare and agricultural products, and polymers. The company manufactures products that include aspirin, antibiotics, anti-infectives, and cardiovascular, oncology, and central nervous system drugs, over-the-counter medications, diagnostics, animal health products, crop protection products, plastics, and polyurethanes. *(source: Bloomberg)*

Bayer produces/imports the following 11 SIN List substances and 4 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1,2-dichloroethane	107-06-2	✔	Carcinogenic
1,2,3-trichloropropane	96-18-4	✔	Carcinogenic; Toxic for reproduction
4,4'-methylenedianiline, MDA	101-77-9	✔	Carcinogenic
a-chlorotoluene	100-44-7		Carcinogenic
Aniline	62-53-3		Equivalent concern
Benzene	71–43–2		Carcinogenic; Mutagenic
Bisphenol A	80–05–7		Equivalent concern/EDC
Ethylene oxide	75–21–8		Carcinogenic; Mutagenic
Formaldehyde	50–00–0		Equivalent concern
Methyloxirane	75–56–9	✔	Carcinogenic; Mutagenic
Styrene	100–42–5		Equivalent concern/EDC

Brenntag

www.brenntag.com

Germany

Subsector:	Specialty Chemicals	Revenue:	9,770 m EUR
ISIN:	DE000A1DAHH0	Employees:	13,000
Reuters:	BNRGn.DE		
Bloomberg:	BNR GR		

Brenntag AG sells and distributes industrial and specialty chemicals. The company also develops and prepares specific chemical compounds and offers analysis services. Brenntag's customers include oil and gas, paint, cosmetic, pharmaceutical, and water treatment companies. *(source: Bloomberg)*

Brenntag produces/imports the following 2 SIN List substances and 2 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Potassium dichromate	7778–50–9	✔	Carcinogenic; Toxic for reproduction; Mutagenic
Sodium dichromate	10588–01–9	✔	Carcinogenic; Toxic for reproduction; Mutagenic

Clariant

www.clariant.com

Switzerland

Subsector:	Specialty Chemicals	Revenue:	6,038 m CHF (2012)
ISIN:	CH0012142631	Equivalent:	4,918 m EUR[6]
Reuters:	CLN.VX	Employees:	21,202
Bloomberg:	CLN VX		

Clariant AG is a global specialty chemicals company. The company's products and services are grouped into four business areas: care chemicals, catalysis & energy, natural resources and plastics & coatings. Clariant develops, produces, markets and sells specialty chemical products for various end markets. *(source: Bloomberg)*

Clariant produces/imports the following 13 SIN List substances and 8 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
[carbonato(2-)] tetrahydroxytrinickel	12607-70-4		Carcinogenic; Toxic for reproduction
1-chloro-2,3-epoxypropane	106-89-8		Carcinogenic
1,2-bis(2-methoxyethoxy)ethane	112-49-2	✔	Toxic for reproduction
1,2-dimethoxyethane	110-71-4	✔	Toxic for reproduction
2-methoxyethanol	109-86-4	✔	Toxic for reproduction
Acrylamide	79-06-1	✔	Carcinogenic; Mutagenic
Acrylonitrile	107-13-1		Carcinogenic
Bis(2-methoxyethyl) ether	111-96-6	✔	Toxic for reproduction
Chromium trioxide	1333-82-0	✔	Carcinogenic; Mutagenic
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Methyloxirane NEW	75-56-9	✔	Carcinogenic; Mutagenic
Nickel monoxide	1313-99-1		Carcinogenic
O-toluidine	95-53-4	✔	Carcinogenic

Registration removed since last report:

4,4'-methylenedianiline, MDA	101-77-9	✔	Carcinogenic
N-methyl-2-pyrrolidone	872-50-4	✔	Toxic for reproduction

6. Using 2013 Year end currency rates, German Bundesbank http://www.bundesbank.de/Redaktion/DE/Downloads/Statistiken/Aussenwirtschaft/Devisen_Euro_Referenzkurs/stat_eurorefj.pdf?__blob=publicationFile

Croda International

www.croda.com

Great Britain

Subsector:	Specialty Chemicals	Revenue:	1,077 m GBP
ISIN:	GB0002335270	Equivalent:	1,292 m EUR
Reuters:	CRDA.L	Employees:	3,545
Bloomberg:	CRDA LN		

Croda International plc is the holding company for a group of companies that manufacture a diverse range of chemicals and chemical products, including oleochemicals and industrial chemicals. Croda supplies its items to companies that specialize in the personal care, pharmaceutical, plastics, food processing, nutrition, fire prevention, engineering and automotive industries. *(source: Bloomberg)*

Croda International produces/imports the following 2 SIN List substances and 1 Candidate List substance:

Substance	CAS number	Present on Candidate List	Hazard classification
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic

DSM

www.dsm.com

Netherlands

Subsector:	Specialty Chemicals	Revenue:	9,618 m EUR
ISIN:	NL0000009827	Employees:	21,857
Reuters:	DSMN.AS		
Bloomberg:	DSM NA		

Koninklijke DSM is a Dutch-based multinational life sciences and materials sciences company. The company's global end markets include food and dietary supplements, personal care, feed, pharmaceuticals, medical devices, automotive, paints, electrical and electronics, life protection, alternative energy and bio-based materials. *(source: Bloomberg)*

DSM produces/imports the following 5 SIN List substances and 1 Candidate List substance:

Substance	CAS number	Present on Candidate List	Hazard classification
2-ethylhexyl 4-methoxycinnamate	5466-77-3		Equivalent concern/EDC
Acrylonitrile	107-13-1		Carcinogenic
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
Quinoline	91-22-5		Carcinogenic

Elementis

www.elementis.com

Great Britain

Subsector:	Specialty Chemicals	Revenue:	777 m USD
ISIN:	GB0002418548	Equivalent:	563 m EUR
Reuters:	ELM.L	Employees:	1,300
Bloomberg:	ELM LN		

Elementis plc is a global specialty chemicals company. The company comprises three businesses. Specialty Products produces rheology additives that enhance the flow characteristics of liquids in a wide range of applications, such as in coatings, cosmetics and oilfield drilling. Surfactants produces surface active ingredients. Chromium manufactures a range of chromium chemicals. *(source: Bloomberg)*

Elementis produces/imports the following 3 SIN List substances and 1 Candidate List substance:

Substance	CAS number	Present on Candidate List	Hazard classification
Acrylonitrile	107-13-1		Carcinogenic
Chromium trioxide	1333-82-0	✔	Carcinogenic; Mutagenic
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic

EMS Chemie

www.ems-group.com / www.emschem.ch

Switzerland

Subsector:	Specialty Chemicals	Revenue:	1,755 m CHF
ISIN:	CH0016440353	Equivalent:	1,430 m EUR
Reuters:	EMSN.S	Employees:	2,371
Bloomberg:	EMSN SW		

Ems-Chemie Holding AG manufactures and markets performance polymers, high-grade chemical intermediates, fine chemicals, and protective bonding, coating and sealing products. The company supplies its products to the automotive, transportation, and textile industries. *(source: Bloomberg)*

Ems-Chemie produces/imports no SIN List substances and no Candidate List substances.

Evonik

www.evonik.de

Germany

Subsector:	Specialty Chemicals	Revenue:	12,874 m EUR
ISIN:	DE000EVNK013	Employees:	33,650
Reuters:	EVKn.DE		
Bloomberg:	EVK GR		

Evonik Industries AG manufactures specialty chemicals. The Company offers different products in the field of consumer goods, animal nutrition, and pharmaceuticals. Evonik Industries serves customers worldwide. *(source: Bloomberg)*

Evonik produces/imports the following 18 SIN List substances and 4 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1,2-dichloroethane	107-06-2	✔	Carcinogenic
4,4'-methylenedianiline, MDA	101-77-9	✔	Carcinogenic
Buta-1,3-diene	106-99-0		Carcinogenic; Mutagenic
Chloroethylene	75-01-4		Carcinogenic
Chromium trioxide	1333-82-0	✔	Carcinogenic; Mutagenic
Diisononyl phthalate	28553-12-0		Equivalent concern/EDC
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Gases (petroleum), light steam-cracked, butadiene conc.	68955-28-2		Carcinogenic; Mutagenic
Hydrocarbons, C4, 1,3-butadiene- and isobutene-free	95465-89-7		Carcinogenic; Mutagenic
Hydrocarbons, C4, steam-cracker distillate	92045-23-3		Carcinogenic; Mutagenic
Isoprene	78-79-5		Carcinogenic; Mutagenic
Lubricating oils	74869-22-0		Carcinogenic
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based	72623-86-0		Carcinogenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
Nickel monoxide	1313-99-1		Carcinogenic
Perboric acid, sodium salt	11138-47-9		Toxic for reproduction
Styrene	100-42-5		Equivalent concern/EDC
Tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane	1634-04-4		Toxic for reproduction

Fuchs Petrolub

www.fuchs-oil.de

Germany

Subsector:	Specialty Chemicals	Revenue:	1,832 m EUR
ISIN:	DE0005790430	Employees:	3,888
Reuters:	FPEG.DE		
Bloomberg:	FPE GR		

Fuchs Petrolub AG refines and produces industrial and automotive lubricants, hydraulic oils, and polishing products. The company also produces biodegradable oils. Fuchs manufactures and markets its products worldwide. *(source: Bloomberg)*

Fuchs Petrolub produces/imports no SIN List substances and no Candidate List substances.

Givaudan

www.givaudan.com

Switzerland

Subsector:	Specialty Chemicals	Revenue:	4,400 m CHF
ISIN:	CH0010645932	Equivalent:	3,584 m EUR
Reuters:	GIVN.VX	Employees:	9,331
Bloomberg:	GIVN VX		

Givaudan SA manufactures and markets fragrances and flavours from natural and synthetic ingredients. The company sells its products to manufacturers of perfumes, beverages, prepared foods, and consumer goods. Givaudan operates worldwide. *(source: Bloomberg)*

Givaudan produces/imports the following 1 SIN List substance and 0 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Galaxolide	1222-05-5		Equivalent concern/EDC

Hexpol

www.hexpol.com

Sweden

Subsector:	Specialty Chemicals	Revenue:	8,036 m SEK
ISIN:	SE0002452623	Equivalent:	907 m EUR
Reuters:	HPOLb.ST	Employees:	3,400
Bloomberg:	HPOLB SS		

Hexpol AB manufactures rubber, plastic and polyurethane components primarily for the automotive, construction, cabling, water treatment, pharmaceutical, energy, and oil industries. *(source: Bloomberg)*

Hexpol produces/imports no SIN List substances and no Candidate List substances.

Johnson Matthey

www.matthey.com

Great Britain

Subsector:	Specialty Chemicals	Revenue:	10,729 m GBP
ISIN:	GB00B70FPS60	Equivalent:	12,869 m EUR
Reuters:	JMAT.L	Employees:	10,498
Bloomberg:	JMAT LN		

Johnson Matthey PLC is a specialty chemicals company, which manufactures catalysts, pharmaceutical materials, and pollution control systems. The company also refines platinum, gold and silver, and produces colour and coating materials for the glass, ceramics, tile, plastics, paint, ink, and construction industries. Johnson Matthey has operations around the world. *(source: Bloomberg)*

Johnson Matthey produces/imports the following 7 SIN List substances and 3 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
[carbonato(2-)] tetrahydroxytrinickel	12607-70-4		Carcinogenic; Toxic for reproduction
Cobalt carbonate	513-79-1	✔	Carcinogenic; Toxic for reproduction
Cobalt nitrate	10141-05-6	✔	Carcinogenic; Toxic for reproduction
Nickel dinitrate	13138-45-9		Carcinogenic; Toxic for reproduction
Nickel monoxide	1313-99-1		Carcinogenic
Pyrochlore, antimony lead yellow	8012-00-8	✔	Toxic for reproduction
Trinickel disulphide	12035-72-2		Carcinogenic; Mutagenic

Registration removed since last report:

Chromium trioxide	1333-82-0	✔	Carcinogenic; Mutagenic

K + S

www.k-plus-s.com

Germany

Subsector:	Specialty Chemicals	Revenue:	3,950 m EUR
ISIN:	DE000KSAG888	Employees:	14,420
Reuters:	SDFGn.DE		
Bloomberg:	SDFG IX		

K+S AG manufactures and markets within the fertilizer division standard and speciality fertilizers for the agricultural and industrial sectors worldwide. In its salt business, the company produces de-icing salt, food grade salt, industrial salt and salt for chemical use. *(source: Bloomberg)*

K+S produces/imports no SIN List substances and no Candidate List substances.

Kemira

www.kemira.com

Finland

Subsector:	Specialty Chemicals	Revenue	2,229 m EUR
ISIN:	FI0009004824	Employees:	4,453
Reuters:	KRA1V.HE		
Bloomberg:	KEM LI		

Kemira Oyj a global water chemistry company serving customers in water-intensive industries. The company offers chemical products and integrated systems that help customers in the water-intensive pulp and paper industry, water treatment chemicals for municipalities and industrial customers, and chemical extraction and process solutions for oil and mining industries. *(source: Bloomberg)*

Kemira produces/imports the following 5 SIN List substances and 2 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1-chloro-2,3-epoxypropane	106-89-8		Carcinogenic
Acrylamide	79-06-1	✔	Carcinogenic; Mutagenic
Acrylonitrile	107-13-1		Carcinogenic
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Formamide	75-12-7	✔	Toxic for reproduction

Lanxess

www.lanxess-europe.de

Germany

Subsector:	Commodities Chemicals	Revenue:	8,300 m EUR
ISIN:	DE0005470405	Employees:	17,343
Reuters:	LXSG.DE		
Bloomberg:	LXS GR		

Lanxess AG is a specialty chemicals company. The company's core business is the development, manufacturing, and marketing of plastics, rubber, intermediates, and specialty chemicals. Lanxess offers its products around the world. *(source: Bloomberg)*

Lanxess produces/imports the following 19 SIN List substances and 4 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1,2-dichlorobenzene	95-50-1		Equivalent concern
2-chlorobuta-1,3-diene	126-99-8		Carcinogenic
2-nitrotoluene	88-72-2		Carcinogenic; Mutagenic
a-chlorotoluene	100-44-7		Carcinogenic
a,a,a-trichlorotoluene NEW	98-07-7		Carcinogenic
Acrylonitrile	107-13-1		Carcinogenic
Aniline	62-53-3		Equivalent concern
Buta-1,3-diene	106-99-0		Carcinogenic; Mutagenic
Chromium trioxide	1333-82-0	✔	Carcinogenic; Mutagenic
Distillates (petroleum), hydrotreated heavy naphthenic	64742-52-5		Carcinogenic
Distillates (petroleum), hydrotreated heavy paraffinic	64742-54-7		Carcinogenic
Ethylene oxide NEW	75-21-8		Carcinogenic; Mutagenic
Formaldehyde	50-00-0		Equivalent concern
Hydrazine	302-01-2	✔	Carcinogenic
Isoprene	78-79-5		Carcinogenic
Naphtha (petroleum), hydrotreated light	64742-49-0		Carcinogenic; Mutagenic
O-toluidine	95-53-4	✔	Carcinogenic
Sodium dichromate	10588-01-9	✔	Carcinogenic; Toxic for reproduction; Mutagenic
Styrene	100-42-5		Equivalent concern/EDC

Linde

www.linde.com

Germany

Subsector:	Commodities Chemicals	Revenue:	16,655 m EUR
ISIN:	DE0006483001	Employees:	63,000
Reuters:	LING.DE		
Bloomberg:	LIN GR		

Linde AG is a gases and engineering company. The Gases Division offers a wide range of industrial and medical gases mainly used in the energy sector, steel production, chemical processing, as well as in food processing. The Engineering Division develops olefin plants, natural gas plants and air separation plants, as well as hydrogen and synthesis gas plants. *(source: Bloomberg)*

Linde produces/imports the following 1 SIN List substance and 0 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Carbon monoxide	630-08-0		Toxic for reproduction

Solvay

www.solvay.com

Belgium

Subsector:	Specialty Chemicals	Revenue:	9,938 m EUR
ISIN:	BE0003470755	Employees:	29,400
Reuters:	SOLB.BR		
Bloomberg:	SOLB BB		

Solvay SA manufactures chemicals and plastics. The company produces soda ash, hydrogen peroxide, functional polymers, silica, surfactants, food and fragrance flavors, and other specialty polymers. Solvay offers its products to numerous industries including the aerospace, alternative energy, automotive, chemical, construction, consumer goods, food and beverage, and oil and gas markets. *(source: Bloomberg)*

Solvay produces/imports the following 15 SIN List substances and 7 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
1-chloro-2,3-epoxypropane	106-89-8		Carcinogenic
1,2-dichloroethane	107-06-2	✔	Carcinogenic
1,2,3-trichloropropane	96-18-4	✔	Carcinogenic; Toxic for reproduction
4,4'-methylenedianiline, MDA	101-77-9	✔	Carcinogenic
4,4'-oxydianiline	101-80-4	✔	Carcinogenic; Mutagenic
Bisphenol A	80-05-7		Equivalent concern/EDC
Buta-1,3-diene	106-99-0		Carcinogenic; Mutagenic
Chloroethylene	75-01-4		Carcinogenic
Dichromium tris(chromate)	24613-89-6	✔	Carcinogenic
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
N-methyl-2-pyrrolidone	872-50-4	✔	Toxic for reproduction
Naphtha (petroleum), full-range straight-run	64741-42-0		Carcinogenic; Mutagenic
Perboric acid, sodium salt	11138-47-9		Toxic for reproduction
Perchloroethylene; tetrachloroethylene	127-18-4		Equivalent concern/EDC

Symrise

www.symrise.com

Germany

Subsector:	Specialty Chemicals	Revenue:	1,830 m EUR
ISIN:	DE000SYM9999	Employees:	5,959
Reuters:	SY1GE.DE		
Bloomberg:	SY1 GR		

Symrise AG is a diversified chemical manufacturer. The company produces perfume oils, fragrance bases, cosmetic raw materials and ingredients, plant extracts, aroma chemicals, flavourings, fruit powders, and seasonings. Symrise's customers manufacture fragrances, cosmetics, soaps, hair care products, detergents, household products, foods, beverages, and pharmaceuticals. *(source: Bloomberg)*

Symrise produces/imports the following 2 SIN List substances and 0 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
2-ethylhexyl 4-methoxycinnamate	5466-77-3		Equivalent concern/EDC
Benzophenone-3; Oxybenzone NEW	131-57-7		Toxic for reproduction

Syngenta

www.syngenta.com

Switzerland

Subsector:	Specialty Chemicals	Revenue:	14,688 m USD
ISIN:	CH0011037469	Equivalent:	10,650 m EUR
Reuters:	SYNN.VX	Employees:	27,000
Bloomberg:	SYNN VX		

Syngenta AG produces crop protection products and seeds. The company produces herbicides, insecticides and fungicides, and seeds for field crops, vegetables, and flowers. *(source: Bloomberg)*

Syngenta produces/imports the following 3 SIN List substances and 2 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Ethylene oxide	75-21-8		Carcinogenic; Mutagenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
N,N-dimethylformamide	68-12-2	✔	Toxic for reproduction

Umicore

www.umicore.com

Belgium

Subsector:	Specialty Chemicals	Revenue:	9,819 m EUR
ISIN:	BE0003884047	Employees:	14,057
Reuters:	UMI.BR		
Bloomberg:	UMI BB		

Umicore SA is a materials technology company. The company operates in advanced materials, precious metal products and catalysts, along with zinc specialties. Umicore has industrial operations on all continents. *(source: Bloomberg)*

Umicore produces/imports the following 18 SIN List substances and 7 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
[carbonato(2-)] tetrahydroxytrinickel	12607-70-4		Carcinogenic; Toxic for reproduction
Arsenic acid NEW	7778-39-4	✔	Carcinogenic
Cadmium	7440-43-9		Carcinogenic
Cobalt acetate	71-48-7	✔	Carcinogenic; Toxic for reproduction
Cobalt carbonate	513-79-1	✔	Carcinogenic; Toxic for reproduction
Cobalt dichloride	7646-79-9	✔	Carcinogenic; Toxic for reproduction
Cobalt nitrate	10141-05-6	✔	Carcinogenic; Toxic for reproduction
Cobalt sulphate	10124-43-3	✔	Carcinogenic; Toxic for reproduction
Diarsenic trioxide	1327-53-3	✔	Carcinogenic
Lead **Lead dichloride**	7439-92-1 7758-95-4		Toxic for reproduction
Nickel bis(2-ethylhexanoate)	4454-16-4		Carcinogenic; Toxic for reproduction
Nickel bis(sulfamidate), nickel sulfamate	13770-89-3		Carcinogenic; Toxic for reproduction
Nickel di(acetate)	373-02-4		Carcinogenic; Toxic for reproduction
Nickel dichloride	7718-54-9		Carcinogenic; Toxic for reproduction
Nickel dihydroxide	12054-48-7		Carcinogenic; Toxic for reproduction
Nickel dinitrate	13138-45-9		Carcinogenic; Toxic for reproduction
Nickel monoxide	1313-99-1		Carcinogenic
Nickel sulphate	7786-81-4		Carcinogenic; Toxic for reproduction

Registration removed since last report:

Lead monoxide	1317-36-8	✔	Toxic for reproduction

Uralkali

www.uralkali.com

Russia

Subsector:	Specialty Chemicals	Revenue:	3,323 m USD
ISIN:	RU0007661302	Equivalent:	2,410 m EUR
Reuters:	URKA.RTS	Employees:	11,800
Bloomberg:	URKA RU		

Uralkali OJSC produces potash. The company operates mines and ore-treatment mills in the Perm Territory, Russia. Uralkali extracts and processes potassium ore and sells standard and granular muriate of potash to the agriculture and chemical industries. The company's main markets include Brazil, India, China, Southeast Asia, Russia, the United States, and Europe. *(source: Bloomberg)*

Uralkali produces/imports no SIN List substances and no Candidate List substances.

Victrex

www.victrex.com

Great Britain

Subsector:	Specialty Chemicals	Revenue:	222 m GBP
ISIN:	GB0009292243	Equivalent:	266 m EUR
Reuters:	VCTX.L	Employees:	600
Bloomberg:	VCT LN		

Victrex plc manufactures and sells a thermoplastic, under the trade mark PEEK. Their PEEK products are used primarily by compounders and processors, in order to manufacture products in a range of industrial applications. *(source: Bloomberg)*

Victrex produces/imports no SIN List substances and no Candidate List substances.

Wacker Chemie

www.wacker.com

Germany

Subsector:	Specialty Chemicals	Revenue:	4,480 m EUR
ISIN:	DE000WCH8881	Employees:	16,009
Reuters:	WCHG.DE		
Bloomberg:	WCH GR		

Wacker Chemie AG is a globally active chemical company with a wide range of specialty chemical products. The company's products include hyperpure polysilicon for the electronics and solar industries, semiconductor wafers, a broad range of silicones, vinyl acetate based polymers, and biotech products. *(source: Bloomberg)*

Wacker Chemie produces/imports the following 5 SIN List substances and 2 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Acrylamide	79-06-1	✔	Carcinogenic; Mutagenic
Buta-1,3-diene	106-99-0		Carcinogenic; Mutagenic
Ethylene oxide NEW	75-21-8		Carcinogenic; Mutagenic
Methyloxirane	75-56-9	✔	Carcinogenic; Mutagenic
Octamethylcyclotetrasiloxane	556-67-2		Equivalent concern/EDC

Yara

www.yara.com

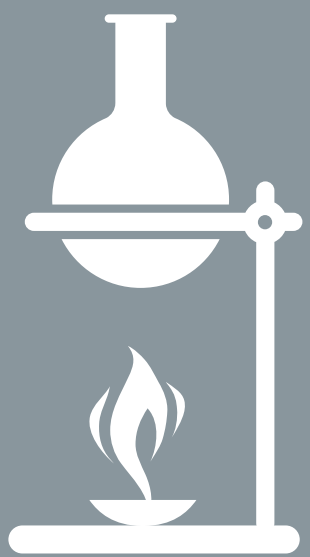
Norway

Subsector:	Specialty Chemicals	Revenue:	85,100 m NOK
ISIN:	NO0010208051	Equivalent:	10,176 m EUR
Reuters:	YAR.OL	Employees:	9,759
Bloomberg:	YAR NO		

Yara International ASA produces, distributes, and sells nitrogen-based mineral fertilizers and related industrial products. The company also distributes and sells a range of phosphate and potash-based mineral fertilizers, as well as complex and specialty mineral fertilizer products. *(source: Bloomberg)*

Yara produces/imports the following 2 SIN List substances and 0 Candidate List substances:

Substance	CAS number	Present on Candidate List	Hazard classification
Carbon monoxide	630-08-0		Toxic for reproduction
Nonylphenol, branched, ethoxylated	68412-54-4		Equivalent concern/EDC



REACH – A EUROPEAN LEGISLATIVE FRAMEWORK FOR CHEMICALS

The EU's chemical regulation, REACH, entered into force in 2007. Within REACH the most hazardous chemicals are identified as Substances of Very High Concern (SVHCs). These are substances that can cause cancer, alter DNA or damage reproductive systems. They also include toxic substances that do not easily break down, but instead build up in nature – with the potential to cause serious and long-term irreversible effects.

The REACH Candidate List[7] contains Substances of Very High Concern. There are immediate legal obligations on producers and retailers following a substance's inclusion on the Candidate List. Upon request, they are obliged to inform consumers as to whether a product contains any substances listed on the Candidate List in concentrations above 0,1%.

The Candidate List is updated twice a year by the European Chemicals Agency, and as of April 2014 it consists of 151 substances. The goal of the European Commission and the European Chemicals Agency is to include "all relevant" substances by 2020.[8]

Once on the Candidate List, substances may enter the authorisation phase of REACH, meaning that they cannot be used in the EU after a sunset date unless an authorisation has been granted for a specific use. An authorisation, for the price of 50,000 EUR per substance and use, can only be given if the company proves that the risks of continued use are limited or the benefits outweigh the risks.

REACH requires all companies that produce or import a substance on the EU market in quantities greater than 1 tonne per year to register that substance with the European Chemicals Agency (ECHA).

7. echa.europa.eu/candidate-list-table

8. chemsec.org/news/news-2010/april-june/548-all-relevant-svhcs-will-be-listed-on-the-candidate-list-by-2020

THE SIN LIST – A PEEK INTO THE FUTURE

The SIN (Substitute It Now!) List names substances and substance groups identified by ChemSec as fulfilling the criteria for SVHCs as provided by REACH.

The SIN List has been developed by ChemSec, the International Chemical Secretariat, in close collaboration with leading health and environmental NGOs in the EU and the US. The SIN List has been revised by scientists and technical experts and is based on credible, publicly available substance information from existing databases, scientific studies and up to date research.

Today the SIN List is a tool that is used worldwide to identify high-concern chemicals, and is used by a wide range of companies, investors, legislators and other stakeholders. In a European Commission report, the SIN List is identified as a key driver for innovation among chemicals industry in the EU.[9]

The SIN List database, as well as more information about the SIN List, is publically available at www.sinlist.org. Beside substance names, CAS and EC numbers, possible uses and the health and environmental implications can also be searched for in the SIN List database.

This includes the companies listed in this publication, as well as stock-exchange-listed companies from outside of Europe or other sectors than the chemicals industry.

9. *"Impact of the REACH regulation on the innovativeness of EU chemical industry", 2012, ec.europa.eu/enterprise/sectors/chemicals/documents/reach/review2012/innovation_en.htm*

METHODOLOGY

The data presented has been collected from the European Chemicals Agency's (ECHA) database of registered substances[10], in February 2014. This information has been made publicly available following a ChemSec request for chemical producer transparency, and a ChemSec and ClientEarth lawsuit with the European Court of Justice when ECHA previously refused to disclose this information.[11]

The data has been compiled by listing registrant names of all SIN List substances according to the information found in the ECHA database. Companies have been grouped according to the owner or affiliation of a company group.[12] If a company is, for example, a joint venture between two companies, the relevant substance is listed for both owners. This applies only to companies with a maximum of two owners. If a company group produces the same chemical at different facilities, the chemical was counted only once. Service providers have been excluded as they are not producers or importers of chemicals. All producers and importers of SIN List chemicals are listed in the SIN List database.[13]

The data presented in the first part of this publication covers companies listed in the MSCI World Developed Markets Index[14]. The second part presents the 28 European chemical companies listed in the "STOXX® All Europe 800 Chemicals" index.[15]

This publication presents number of SIN List chemicals produced or imported by a company group, as well as how many of these are also on the official REACH candidate list.

The data in the first part covering companies globally is presented by industry sector and region. The division between different sectors is in accordance with the Global Industry Classification Standard (GICS).

In the second part covering European chemical companies, companies are presented in more detail; which SIN List substances they produce or import (name and CAS number) as well as the classifications of health and environmental implications which lay the ground for inclusion on the SIN List (see explanations on next page).

Information about revenue and number of employees has been taken from the companies´ annual reports from 2013.

10. *echa.europa.eu/information-on-chemicals/registered-substance*
11. *chemsec.org/what-we-do/sin-list/eu-court-case*
12. *Information about company owners of affilitation to a company group was compiled by an internet research between February and April 2014. It only reflects the information publicly available at this moment in time*
13. *sinlist.org*
14. *The MSCI World Developed Markets Index captures large and mid cap representation across 24 Developed Markets countries. With 1,610 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country. We thank MSCI for making the index composite available, reflecting the data on 27th February 2014*
15. *This indes is derived from the STOXX All Europe Total Market Indices TMI, representing the largest 800 companies in Eastern and Western Europe. It covers the largest stocks in the the chemical sector in Europe by weighing according to their free-float market capaitalization. www.stoxx.com/indices/index_information.html?symbol=SXEBMP*

ISIN numbers (International Securities Identification Number) are also listed, which is a uniform identification of a unique security within financial trading and settlement.

The data presented in the two parts of this publication differs in terms of sectors and regions covered. The first part covers a diversity of production sectors globally, and the second part only covers the European chemical sector. With the latest update of the SIN List in March 2013 a large number of complex hydrocarbon distillates were added to the list. These substances had earlier been exempted from the SIN List, since it was estimated that the vast majority of them were used as intermediates, and not part of end products. However, REACH registration data has now shown that many of these substances are fully registered, and therefore within the scope of REACH, as they are also carcinogenic, mutagenic or toxic to reproduction. Due to this, in the first part of this publication companies within the oil, gas and consumable fuel industry end up with a high number of SIN List substances produced or imported.

CLASSIFICATIONS OF HEALTH AND ENVIRONMENTAL IMPLICATIONS

Carcinogenic Substances that cause cancer.

Mutagenic Substances that cause irreparable mutations in the DNA which will be transferred on to the next generation.

Toxic for reproduction Substances that damage reproductive systems.

PBT Substances that are persistent, bioaccumulative and toxic, meaning that they do not easily break down in nature. Instead they build up in the environment, animals and humans with the potential to cause serious and long-term irreversible effects.

vPvB Substances that are very persistent and very bioaccumulative.

Equivalent concern Substances that are identified as equivalent level of concern, in terms of the potential damage they may cause, as the above listed categories.

EDC Endocrine Disrupting Chemicals are substances that disrupt or alter the hormonal systems in the body causing widespread effects throughout the organism.

SCOPE AND LIMITATIONS

Only companies listed in the MSCI World Developed Markets Index and in the "STOXX® All Europe 800 Chemicals" index are presented in this publication.

REACH registration data only discloses production/import of chemicals in the EU. The companies presented may also produce SIN List chemicals outside of the EU, hence this is not included in the data presented here.

Six of the companies presented have not registered production or imports of any SIN List substance. However this does not imply that they do not produce any other substances that might be harmful to human health and the environment.

Some REACH registrations are not publically available, or do not contain producer information, and therefore these registrations have not been included as part of the data. This refers to registrations which are claimed confidential,[16] or substances that have been notified as new substances.[17]

Most, but not all, SIN List substances have until now had an obligation to be registered with ECHA. The deadline for REACH registration depends on the classification of a substance, as well as the quantity in which it is produced. Currently only the first and second registration deadlines in 2010 and 2013 have passed for chemicals produced in high volumes as well as chemicals with certain properties.[18] Some lower-volume chemicals are expected to be registered by the last coming REACH registration deadline in June 2018.[19]

The data presented builds on full registrations. In addition to this, many SIN List chemicals have also been registered as intermediates.[20]

We are aware that certain specific provisions and exemptions do apply for registration and authorization in REACH. The full legal text and guidance documents can be found on the ECHA website.

16. *A confidentiality claim costs between 225 and 3000 EUR, and will only be approved if the company can prove it will suffer financially if the information provided is not kept confidential. Less than one percent of the registrations include a confidentiality claim of their legal entity name of the producer.*
17. *Notification of new substances, "NONS", require registration, but does not contain producer information.*
18. *The first December 2010 deadline obliged companies to register substances produced or imported in volumes above 1,000 tonnes per year, plus substances that are carcinogenic, mutagenic or toxic to reproduction (CMR substances) produced or imported in quantities above over 1 tonne per year. In June 2013 substances produced or imported in quantities between 100 and 1,000 tonnes per year had been registered.*
19. *The third and final deadline in June 2018 applies for low-volume chemicals produced or imported between 1 and 100 tonnes per year.*
20. *An intermediate is a substance only used in the process of developing a chemical end product, and hence not a chemical present in any final product.*

CHEMSEC – THE ORGANISATION BEHIND THE SIN LIST

ChemSec, a non-profit environmental organisation, is a leading advocate of chemicals policy based on current scientific understanding. Our mission is to substantially reduce the use of hazardous chemicals and its impact on health and the environment. To promote sustainable innovation, we offer guidance and tools for effective chemicals management. In addition, ChemSec works to speed up legislative processes, engage business and act as a catalyst for progressive dialogue and action. Encouraging investors to invest in the production and use of safer alternatives instead of risking profits by investing in companies that produce and use hazardous chemicals is a core part of our work.

All of our work is geared to stimulate public debate and action on the necessary steps towards a less toxic world. Our vision is a world free of hazardous chemicals.

The SIN Producer List for Investors is available online at www.chemsec.org/sin-producer-list.

Information about all producers and importers of SIN List chemicals can be searched for in the SIN List database available at www.sinlist.org.

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