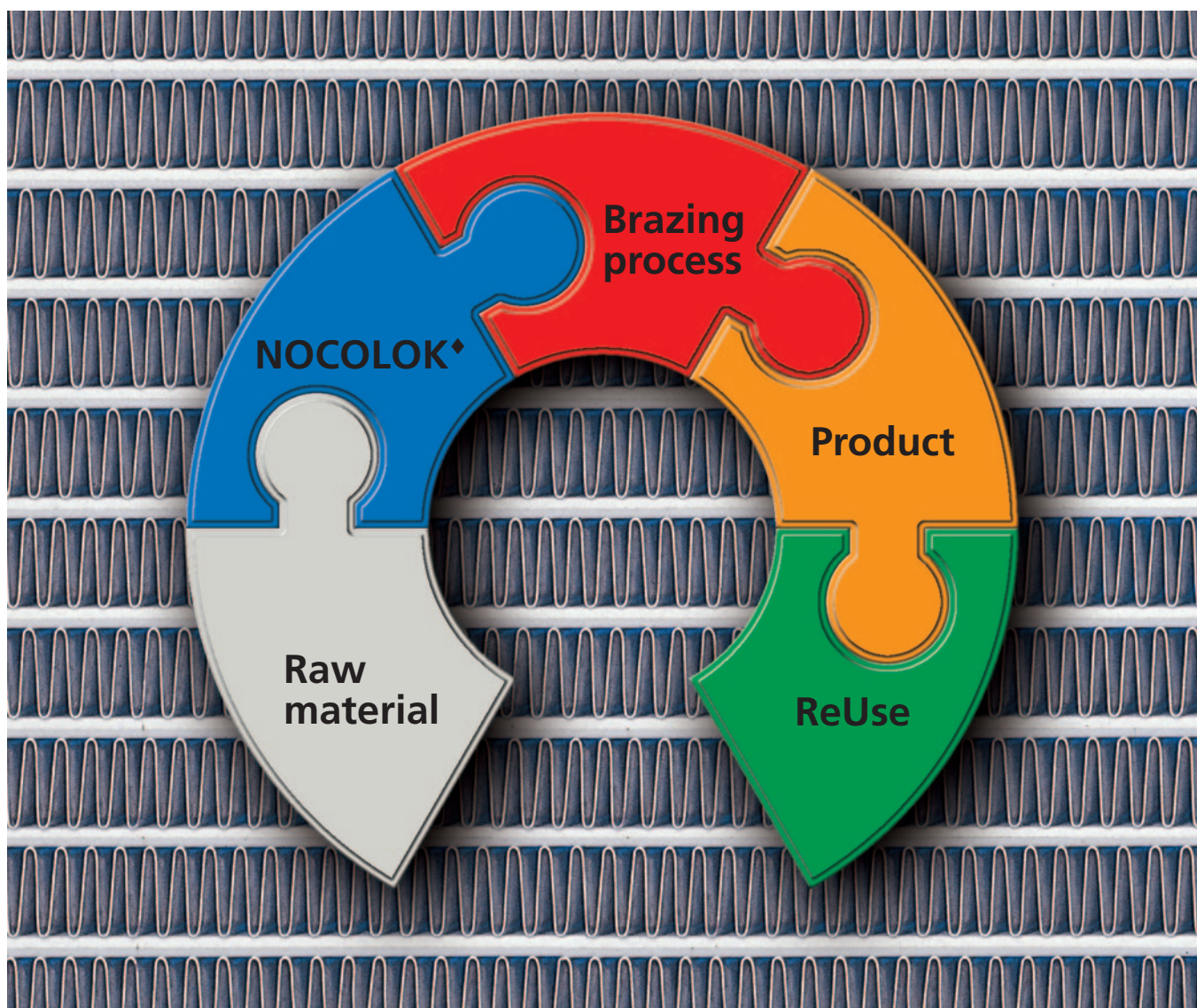




NOCOLOK[®] Flux Products

The SD Concept

Sustainable Development
Throughout the Product Lifecycle



Solvay
Fluor



The Objectives

With the product NOCOLOK® Flux, Solvay Fluor GmbH is a world leader in the field of aluminium brazing for manufacturing heat exchangers for automobiles. In addition to this, NOCOLOK® Flux is also used, for instance, in the production of heat exchangers in refrigerators and industrial applications as well as in the manufacture of household goods.

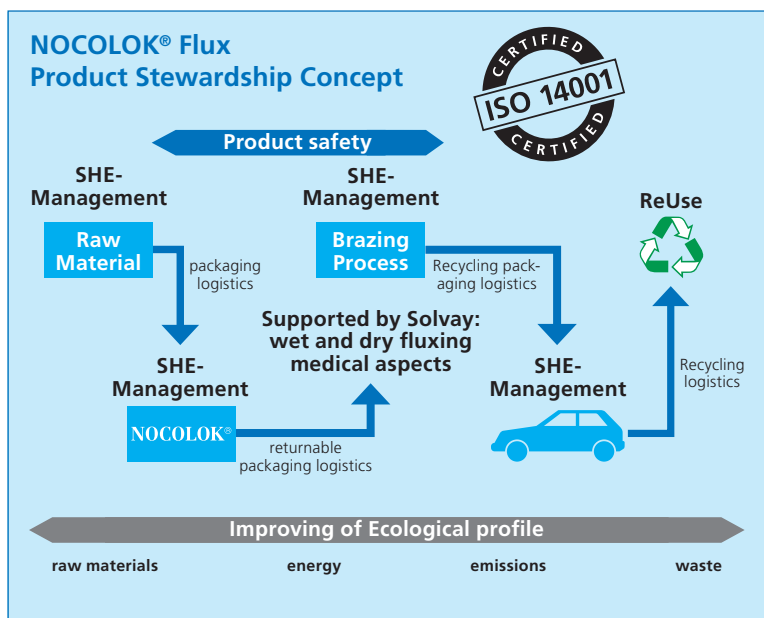
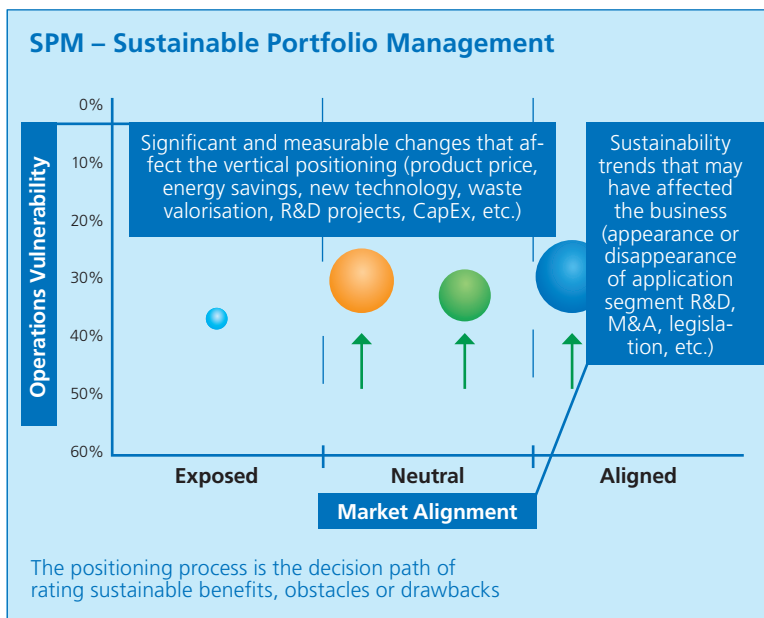
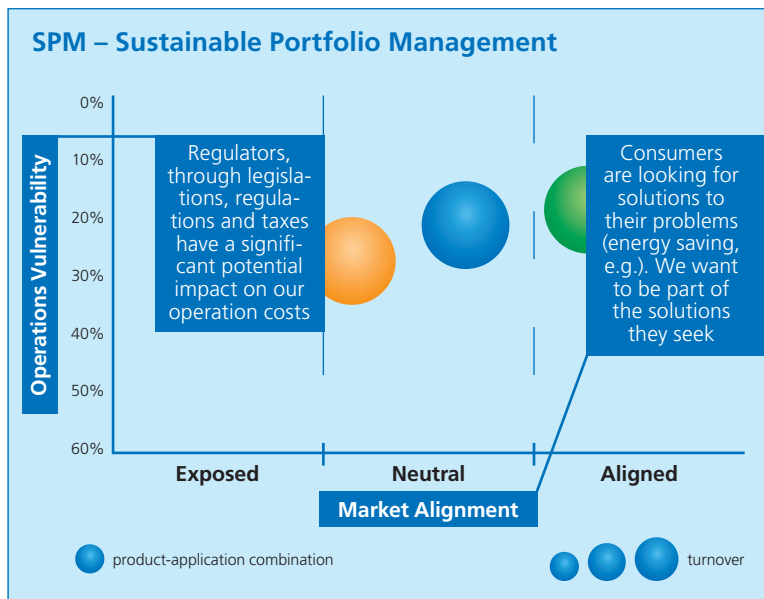
Solvay Fluor GmbH's sustainability objective for its NOCOLOK® Flux business is...

- to position the products on the low vulnerable neutral or higher class alignment positions
- to screen the flux research and application processes according such SD requirements
- to offer customer-oriented user service
- to optimise the brazing process in technical respects and to provide appropriate market impulses
- to offer services of customer and operator-related management on safety, health and environmental protection (SHE).

On the one hand, safety health and environmental protection are subjects which, just like quality service or technique, increasingly require cooperation by all concerned in the supplier-client chain. The growing importance and specific requirements of SHE subjects suggest separate treatment, especially now with the current new ratings and classifications with the European REACH programme and the global harmonization of labeling. Solvay Fluor GmbH has therefore created for NOCOLOK® Flux throughout the entire product lifecycle a product stewardship concept revolving around the fields of safety, health and environmental protection – an activity in the framework of the chemical industry's responsible care initiative within the SPM thinking.

The Concept

Important stations in the life history of NOCOLOK® Flux have been purchasing of the raw materials, manufacturing, application, use of products manufactured with the aid of NOCOLOK® Flux (in the case at hand: heat exchangers in autos) and recycling. In addition to this there is the transportation required between the different stations along this route. Solvay Fluor GmbH's SHE management takes over at precisely these points with various measures and customer-related offers, also beyond its legal obligations.



The Examples

The services which Solvay Fluor GmbH or the product NOCOLOK® Flux offer in the fields of safety, health and environmental protection have been tailored to the product life history's various stations. Examples of such services at different stations follow here. In the context of this environmental check, the environmental protection policies of the company were checked as well as environmental protection objectives and measures being mandatorily laid down. As positive amplifier Solvay Fluor GmbH also looks for ways to reduce the raw material percentage per ton usage in the process standard.

Raw Materials

The delivery of NOCOLOK® Flux raw materials as for example potassium hydroxide and aluminium hydroxide which previously occurred in small use-only-once packaging, has been switched to more environmentally sound alternatives like railway tankers (potassium hydroxide) and big bags (aluminium hydroxide). On this basis we save resources for the environment. There is also the guideline to reduce the amount of packaging material and save resources here as well.

Energy Reduction Programme

Solvay Fluor GmbH's technical services support customers through projects for reducing water and energy consumption, for lowering waste generation and for optimising waste recycling and screen for alternative production routes.

A manual produced by Solvay Fluor GmbH on the SHE-related aspects of NOCOLOK® Flux provides the customer with instructions for proper and safe use of the product (e.g. for minimizing dust generation, spraying or dripping during application). This code of good practice also should be seen as guideline for the own operators in our production sites.



The SHE-manual

Such instructions on product application is also passed on by Solvay Fluor GmbH to customers in the form of training by our expert teams.

Customers receive, in addition to the safety data sheets, written information, for instance, on the results of product related environmental protection studies or on investigations into health aspects.

Use

Environmental effects caused by automobiles are primarily generated during the usage phase, not during production. An important criterion for classifying environmental effects is in this case petrol consumption and that is ultimately dependent on the weight of the auto. Production of heat exchangers with aluminium and NOCOLOK® Flux contributes to a reduction in weight and therefore, to a reduction in fuel consumption. In stationary air conditioning system the brazed aluminium heat exchangers help to save energy as well compared to old technologies using copper tubes. By replacing them to aluminium the industry improves the raw material recyclability.

Transportation

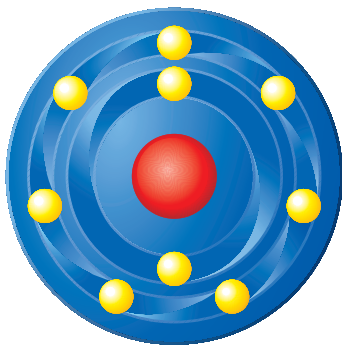
The new REACH initiative will also cover the influence of the chemicals in the normal lifetime. Here the SHE consideration and evaluations are not only focused on the heat exchanger producer's operators using the powder in the application but also seeing the flux powder residues after brazing on the heat exchanger and therefore giving more impact on SHE concern on the real enduser side. In combination to the REACH classification the harmonization will continue with labeling and packaging for the welfare of the endusers (CLP regulation).



Voluntary environmental audit under ISO 14001:2004



Voluntary Occupational Health and Safety under BS OHSAS 18001:2007



Solvay Fluor – Competence in
Fluorine Chemistry. Worldwide.

Professional Fluorochemistry

Solvay Fluor combines all fluorochemicals activities of the international Solvay Group. With more than 1,000 talented employees we serve customers with fluorine products manufactured at 10 locations worldwide. The organizational structure provides rapid and flexible responses to the demands of international markets – for the benefit of our clients. Solvay Fluor stands for a professional team of experienced chemists and a sales staff committed to taking on any challenge and to solving problems in close co-operation with our clients. With our state-of-the-art application technologies we offer a full range of fluorochemicals, using fluorspar produced in-house. In line with our commitment to managing challenges we further focus our Fluor business on high value-added specialty products to bring value to our customers.



NOCOLOK® is a registered trademark of Solvay Fluor GmbH



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